ENVIRONMENTAL ASSESSMENT

of the

FINAL RULE

amending the

ATLANTIC LARGE WHALE TAKE REDUCTION PLAN

GEAR RESTRICTIONS

August 2002

National Marine Fisheries Service (NOAA Fisheries)
National Oceanic and Atmospheric Administration
DEPARTMENT OF COMMERCE

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1.0 Introduction

Granted the authority and mandate by the Marine Mammal Protection Act (MMPA), the National Marine Fisheries Service (NOAA Fisheries) must reduce the incidental mortality and serious injury of marine mammals associated with commercial fisheries. This Environmental Assessment (EA) addresses the interactions between the gillnet fisheries in the southeastern United States and the four large whale species addressed under the Atlantic Large Whale Take Reduction Plan (ALWTRP): North Atlantic right whale (*Eubalaena glacialis*), humpback whale (*Megaptera novaeangliae*), fin whale (*Balaenoptera physalus*), and minke whale (*Balaenoptera acutorostrata*). NOAA Fisheries proposes to implement gillnet gear restrictions in the southeast United States in order to reduce the potential for whale/gear interactions.

2.0 Purpose and Need for Action

The Proposed Action is in response to requirements under the MMPA and the Endangered Species Act (ESA) and recommendations by the Atlantic Large Whale Take Reduction Team (ALWTRT) to reduce the take of marine mammals to levels below their Potential Biological Removal (PBR) level. This rule is specifically targeted at reducing the potential for fishing interactions with the critically endangered North Atlantic right whale.

2.1 Description of Action

The complete background for the ALWTRP is found in Section 2.1 of the EA published on July 15, 1997 (NOAA Fisheries 1997). The following background section is in reference to specific actions to modify gear requirements for the ALWTRP.

Pursuant to § 118 of the MMPA, NOAA Fisheries convened a team of stakeholders in 1996 to develop a plan for reducing the incidental bycatch of large whales in multiple fisheries, including monkfish and dogfish, in the New England multispecies sink gillnet fishery; multiple species in the U.S. mid-Atlantic coastal gillnet fisheries; lobster in the Gulf of Maine and U.S. mid-Atlantic trap/pot fisheries; and sharks in the southeastern U.S. Atlantic gillnet fishery. The group, called the ALWTRT, consists of representatives from the fishing industry, the New England and Mid-Atlantic Fishery Management Councils, state and Federal resource management agencies, scientific community, and conservation organizations.

The immediate goal of the ALWTRT was to draft a plan to reduce the incidental mortality and serious injury of the four primary Atlantic large whale species that interact with fisheries the North Atlantic right whale (*Eubalaena glacialis*), humpback whale (*Megaptera novaeangliae*), fin whale (*Balaenoptera physalus*), and minke whale (*Balaenoptera acutorostrata*) to a level less than the potential biological removal level (PBR) within six months of implementation of the ALWTRT s plan. The group has met since 1996 in an open forum, providing the opportunity for public feedback and comment.

Most of the measures in the ALWTRP focus on ways to reduce the risk of serious injury and mortality to right whales, both because the right whales population status is more critical than that of any other large whales and because right whales are the only endangered large whale in U.S. Atlantic waters for which the PBR level is known to be exceeded.

The ALWTRP currently addresses fixed gear fisheries including the Northeast sink gillnet fishery, the Mid-Atlantic coastal gillnet fishery, the lobster trap/pot fishery, and the southeastern U.S. Atlantic shark gillnet fishery.

Following the ALWTRT s initial set of meetings, NOAA Fisheries developed a proposed ALWTRP published on April 7, 1997 (62 FR 16519), which was later modified as an Interim Final Rule on July 22, 1997 (62 FR 39157), and finalized on February 16, 1999 (64 FR 7529). An interim final rule published on January 9, 2002 (67 FR 1142); final rule published on January 9, 2002 (67 FR 1133); and final rule published on January 10, 2002 (67 FR 1300) amend and supplement the initial rules to implement the ALWTRP.

The main elements of the ALWTRP include basic prohibitions on killing or injuring whales as well as a combination of broad gear restrictions and time-area closures, which are being supplemented by progressive gear research, expanded disentanglement efforts, and extensive outreach efforts in key areas. An interim final rule published on December 21, 2000 (65 FR 80368) modifies the February 1999 final rule by changing requirements for the lobster and gillnet fisheries in the Northeast segment of the ALWTRP. Components of the December 2000 interim final rule included buoy line weak links, net panel weak links with anchoring systems, restrictions on number of buoy lines, and gear marking. The January 2002 final rules deal with Seasonal and Dynamic Area Management as well as gear restrictions in the Northeast.

Under § 7 of the ESA, NOAA Fisheries reviews the effect of fishery management activities on species listed as threatened or endangered. On June 14, 2001, NOAA Fisheries issued Biological Opinions (BOs) for the monkfish, spiny dogfish, and multispecies Fishery Management Plan (FMP) and Federal regulations for the lobster fishery. It was concluded that the fishery management actions as proposed had the potential to jeopardize the continued existence of western North Atlantic right whales. A reasonable and prudent alternative (RPA) was included in the BOs which contains a number of measures necessary to avoid jeopardy. One component of the RPA includes modifications to existing gear deployment methods used in gillnets in the southeast United States. The RPA established a deadline for a proposed rule for gear restrictions in the Southeast by September 30, 2001, and a final rule by December 31, 2001.

NOAA Fisheries convened the ALWTRT on June 27-28, 2001, to discuss, develop, and recommend to NOAA Fisheries further management options to protect North Atlantic right whales. The ALWTRT discussed various alternatives, and the final recommendations included the expansion of gear restrictions to gillnets in the Southeast U.S. Restricted Area, specifically those fisheries using the straight set method.

The purpose of this EA is to evaluate the potential environmental effects as a consequence of issuing a rule to expand gear restrictions, similar to those adopted in the northeast, to the southeastern U.S. gillnet fishery. NOAA Fisheries aims to reduce the risk of entanglement of western North Atlantic right whales through the rulemaking.

2.2 Decisions Involved in this NEPA Analysis

Since the interim final rule was published in December 2000, entanglements of whales have continued to occur. The need for further protective measures are defined by the ESA requirement to remove jeopardy and by the goals under the MMPA to reduce takes in commercial fishing operations to below PBR within 6 months of ALWTRP implementation and to a zero mortality rate goal (ZMRG) within 5 years of ALWTRP implementation. In the case of the western North Atlantic right whale, these two goals are essentially the same as PBR, defined as zero.

NOAA Fisheries must determine the appropriate measure to actualize the RPA in the four BOs as well as address the recommendation by the ALWTRT. This decision must include consideration of possible adverse impacts to marine mammals and other aquatic organisms and their habitats from fishing activities, degradation or improvement of the human environment as a result of various alternative fishing regimes, and possible implementation of the mitigatory actions. In brief, the options NOAA Fisheries considered for detailed analysis included:

- **Alternative 1 - Proposed Action:** Prohibition of the straight set of gillnets in the Southeast U.S. Restricted Area at night from November 15 through March 31, annually, unless the exemption under § 229.32(f)(3)(iii) applies. Night-time is defined by the current ALWTRP as being any time between one half hour before sunset and one half hour after sunrise (50 CFR 229.2).
- **Alternative 2 - No-Action :** No additional gear restrictions in the southeast United States
- **Alternative 3** - Prohibition of the straight set of gillnets in the Southeast U.S. Restricted Area at all times from November 15 through March 31, annually, unless the exemption under § 229.32(f)(3)(iii) applies.
- **Alternative 4** - Prohibition of gillnets in the Southeast U.S. Restricted Area from November 15 through March 31, annually.

2.3 Scoping and Significant Issues

The scope of the actions considered under this EA include the gillnet fisheries which operate in the Southeast U.S. Restricted Area. These fisheries may potentially jeopardize the continued existence of the western North Atlantic right whale. Other fishing activities in the southeastern United States outside of the Southeast U.S. Restricted Area were not chosen for detailed analysis in this EA because their operation and regulation have not been deemed to jeopardize right whales.

Other activities have been discarded from detailed analysis in this EA because their planning, regulation, and implementation fall outside the scope of the Proposed Action which is the focus of this EA. Those other activities determined to be outside this document s scope, include:

- " irreversible modification of the water quality or habitat of the western North Atlantic right whale
- " recreational fishing operations
- " shipping operations which may transit and/or impact the Southeast U.S. Restricted Area

2.4 Federal Permits, Licenses, and Entitlements Necessary

For fisheries operating in the Southeast U.S. Restricted Area, NOAA Fisheries is responsible for permitting, regulating, and enforcing restrictions. Florida has instituted a ban on nets in its state waters, as has Georgia with the exception of the shad gillnet fishery which operates in inside waters and is being phased out. The gillnet fisheries in the Southeast U.S. Restricted Area occur primarily in Federal waters; therefore, NOAA Fisheries is the primary oversight agency responsible for fishery regulation modifications, if necessary.

3.0 Proposed Action Alternative and Other Alternatives

Several alternatives were considered that would reduce the threat of serious injury or mortality of right whales resulting from encounters with gillnet gear in southeast waters.

3.1 Preliminary Alternatives Excluded from Detailed Analysis

NOAA Fisheries discussed a diversity of variables which could serve as the basis for potential alternatives. The variables included time (of day and of year), geographic area, gear restrictions, scope of fisheries addressed, and fishing method modifications. Using these variables, NOAA Fisheries developed a list of preliminary alternatives. NOAA Fisheries chose several variables which did not merit further detailed analysis for the purposes of this EA.

3.1.1 Season

In the alternatives presented in this EA, NOAA Fisheries chose to focus the analysis on the western North Atlantic right whale s documented temporal use of its calving areas. NOAA Fisheries believes this approach is preferable than adaptive management techniques throughout the year or restrictions on fishing practices throughout the entire year, as described below.

3.1.1.1 Adaptive Management

If a group of right whales, as the most critically endangered of the large whale species, should show up and linger for several days in an area where they typically do not linger, it is possible to implement emergency entanglement risk reduction measures in that area until the whales pass.

NOAA Fisheries has chosen to implement Seasonal and Dynamic Area Management efforts in the northeast United States.

Under the adaptive management approach, NOAA Fisheries would issue emergency regulations to restrict fishery activities in the area to minimize the risk of entanglement. The trigger to this process may include a specific number of sightings in a particular geographic area. NOAA Fisheries would remove the temporary restrictions if right whales are determined to have left the area as based on sighting efforts that produce no confirmed sightings for a period of time. Notices of emergency closure or restrictions would be published in the *Federal Register*. In practice, this dynamic management may involve lag times between the whale s activities and any resulting fishery restrictions. The affected fisheries may be better served and the whales may be better protected in the southeast United States through case-by-case consideration of the special situations, close cooperation between NOAA Fisheries and the fisheries, improved monitoring of residency, and an enhanced disentanglement response.

In the southeast United States, NOAA Fisheries has established close cooperation between local states and affected fisheries, dedicated resources to improving the disentanglement program, and continually fostered whale research. Because of these efforts, NOAA Fisheries is equipped with the resources to take an alternative approach to adaptive management such as time-specific provisions through a Proposed Action. The specific time periods correspond to resident periods for the species. For instance, in the southeast United States, this period of time is from November 15 through March 31, i.e., those times associated with the western North Atlantic right whale calving season.

3.1.1.2 Year-round Provisions

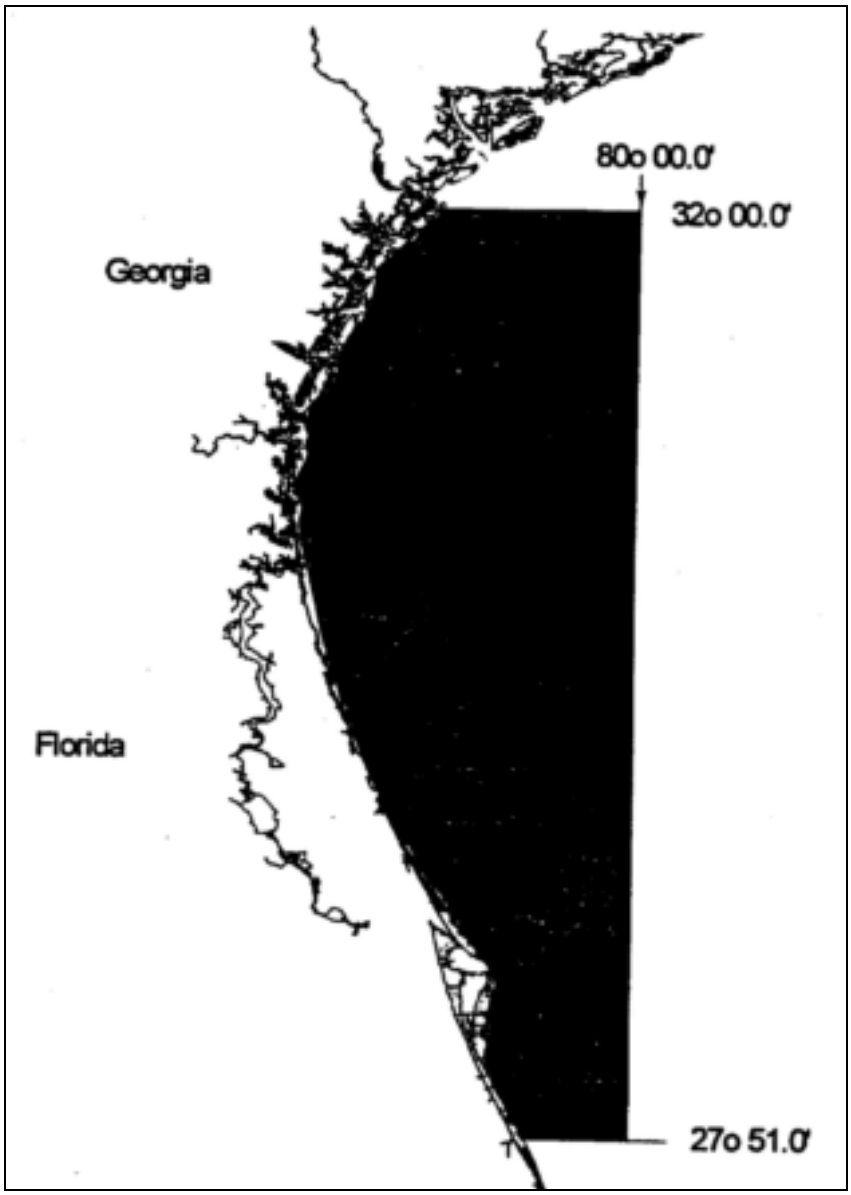
If whales enter the area out of season, that is, outside the period in which high-use has been recorded and outside the gear-specific closure, the EA alternatives alone would not afford the whales any reduction in entanglement risk. Based on the best available information on right whale use of the southeast calving area, NOAA Fisheries does not believe expanding fishery restrictions beyond the November 15 to March 31 high-use period would offer additional significant protection to right whales from entanglement in gillnet gear.

3.1.2 Geographic Area

Although NOAA Fisheries can predict where some right whales will be found at some times of the year, right whales have been sighted in virtually all coastal and offshore waters from Florida to Maine (including Canadian waters). Right whales are rarely found within the bays, harbors, or behind barrier beaches in the Southeast and Mid-Atlantic areas. These are areas where right whale sightings are so low that NOAA Fisheries believes regulation of fishing activity will have no practical benefit for right whale conservation. The basic rule for the exempted water boundaries is that all waters landward of the first bridge over any embayment, harbor, or inlet be exempted. In coastal and offshore waters, sightings are typically of small, transient groups or individuals. On

occasion, however, larger groups of right whales are resident at times and in locations that are unexpected, including times when large amounts of fishing gear may be deployed in the area. Under these circumstances, the risk of entanglement is higher. Since the western North Atlantic right whale is a migratory stock, there is potential for interactions with commercial fisheries within the southeast United States calving area, including the formally designated Critical Habitat and surrounding waters such as those identified as the Southeast U.S. Restricted Area. The Southeast U.S. Restricted Area includes the waters from 27 51' N latitude (near Sebastian Inlet, Florida) to 32 00' N latitude (near Savannah, Georgia) extending from the shore outward to 80 W longitude. The Proposed Action encompasses the Southeast U.S. Restricted Area as the most appropriate area to manage (Figure 1).

Figure 1: Southeast U.S. Restricted Area

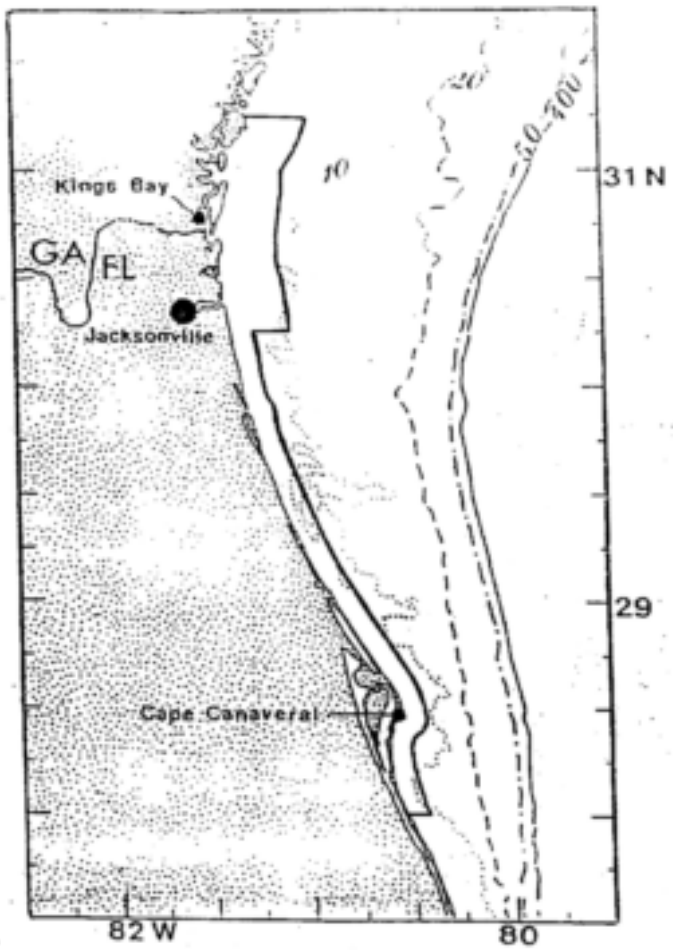


In the July 22, 1997, interim final rule to implement the ALWTRP, NOAA Fisheries identified two approaches for reducing the risk of serious injury or mortality to right whales to achieve the Plan s goals. One approach was through extensive closures of large areas of the ocean to gillnet fishers. This approach would guarantee reduction of entanglements causing serious injury and mortalities but only at a high cost to many fishermen. NOAA Fisheries chose instead to modify fishing practices in a manner designed to create a realistic potential of achieving MMPA objectives without sacrificing large parts of a vital fishing industry. This approach does not carry the guarantee of the first approach but it is calculated to have a good chance for success.

3.1.2.1 Critical Habitat

In accordance with the ESA, NOAA Fisheries designated Critical Habitat for the western North Atlantic right whale through the June 3, 1994, final rule (59 FR 28793) (Figure 2). A portion includes those waters adjacent to the coast of Georgia and the east coast of Florida. Whales use this area as a winter calving ground and nursery area. NOAA Fisheries believes that the most important winter/calving areas known are within the boundaries currently identified as Critical Habitat. The greatest number and highest densities of right whales have been observed in the Georgia-Florida border area, with the second highest number occurring in the Cape Canaveral region. It is clear, however, that northern right whales occur outside this area during the winter calving period and during their late-winter/spring migration northward. During the public comment period associated with the rule, NOAA Fisheries received feedback regarding the geographical appropriateness of the habitat designation with respect to its effectiveness to protect whales. NOAA Fisheries is currently analyzing available right whale sighting data to determine whether the existing critical habitat boundaries warrant changes.

Figure 2: Western North Atlantic Right Whale Southern U.S. Critical Habitat



The ALWTRT and NOAA Fisheries chose to expand the area encompassed under the ALWTRP beyond the existing Critical Habitat boundaries in order to provide a conservative buffer around the species known area of concentration and because offshore surveys conducted since the original designation of Critical Habitat in 1994 have demonstrated that right whales are distributed further offshore than was previously known for Southeast waters.

3.1.2.2 Exclusive Economic Zone (EEZ)

It is not completely understood to what extent the entire EEZ is used as right whale habitat. As detailed in the previous ALWTRP rules, certain waters outside Critical Habitat are exempt from previous take reduction provisions. The areas were considered to have right whale occurrences so rare that NOAA Fisheries does not believe gear requirements will have substantial effect on reducing entanglements.

Currently the gillnet fisheries, as fisheries previously prosecuted in state waters, operate as near to the 3-mile state jurisdiction limit as possible.

By focusing on a smaller geographical area rather than restricting use of a gear throughout the entire Atlantic EEZ, NOAA Fisheries fosters cooperation with the fishermen and takes advantage of their presence on the water to improve the disentanglement effort and to enlist their aid in developing gear restrictions that will reduce bycatch while minimizing costs to the fishery. By focusing on a specific geographical area instead of the entire Atlantic EEZ, the plan encourages the fishing industry to take responsibility for reducing takes of large whales.

3.1.2.3 Beyond Southeast U.S. Restricted Area

As right whales migrate from their calving grounds in the southeastern United States to their foraging grounds in the northeastern United States, the whales transit outside of the Critical Habitat and Southeast U.S. Restricted Areas. Right whales are infrequently seen in waters less than 21 degrees Celsius, and therefore avoid the warm waters of the Gulf Stream. This information was used by the ALWTRT in developing its initial recommendations for take reduction measures for the southeastern U.S. shark gillnet fishery, and by NOAA Fisheries in developing regulations implementing the provisions of the ALWTRP. The ALWTRT (and subsequently NOAA Fisheries) determined that because of what is known regarding the distribution of the whales, and to be consistent with the existing area restrictions for the southeastern U.S. shark gillnet fishery, the most sensible course of action would be to use the Southeast U.S. Restricted Area as the management unit for the Proposed Action.

NOAA Fisheries continues to dedicate resources to research and evaluate the appropriateness of the current designated Critical Habitat. At this time, NOAA Fisheries believes that designating additional waters outside of the current Southeast U.S. Restricted Area as additional restricted habitat would not enhance the likelihood of recovery for this species.

Given the geographic concentration of right whales during the winter/calving period, the extreme endangered status of this species, the importance of the Critical Habitat to the recovery of the species, NOAA Fisheries has taken a conservative approach and developed a Proposed Action that encompasses a geographical area larger than the animal s designated Critical Habitat through use of the Southeast U.S. Restricted Area as the management unit for the alternatives addressed in this EA. NOAA Fisheries believes that the ALWTRP adequately addresses all areas which represent significant overlap between the whales and fisheries associated with entanglements.

NOAA Fisheries has decided to use the best available information on the species high-use area as the basis for the Proposed Action. At this time, NOAA Fisheries lacks sufficient evidence that would indicate an increased level of protection to whales by expanding the Proposed Action beyond the Southeast U.S. Restricted Area.

3.1.3 Gear Restrictions

Fishing conditions and practices differ widely throughout the range of the ALWTRP, and therefore a uniform application of gear requirements is not likely to be practical. Through the Proposed Action, NOAA Fisheries would implement fishery and area-specific provisions to reduce western North Atlantic right whale entanglements.

3.1.3.1 Weak Links

Fixed and anchored gillnet gear in the Mid-Atlantic must have weak links with sufficient maximum breaking strength to allow the whale to break way from the net before becoming entangled in the mesh. In order for a weak link to operate properly, the gillnet must offer sufficient resistance against the whales. This resistance comes from the anchoring associated with the fixed or anchored gear.

In the southeast U.S. gillnet fisheries, the gillnet is not anchored. The gear contains a leadline which provides sufficient force for the gillnet gear to hang in the water column; however, the gear does not offer the resistance force comparable to fixed fisheries. Therefore, there lacks sufficient evidence to merit the application of weak link mandates to the gillnet fisheries in the southeast United States.

3.1.3.2 Gear Marking

NOAA Fisheries believes marking gear is valuable, for it will eventually help document where and in what fishery entanglements are occurring. Regulatory measures discussed by the southeast sub-group of the ALWTRT included applying northeast gear marking requirements to the southeast United States. At the southeast sub-group meeting, there was agreement to apply the northeast gear marking requirements to the southeast once the northeast adopted a revised gear marking scheme. However, the gear marking requirements eventually adopted by the Northeast are of less utility in identifying gear to a particular fishery than are the current gear marking requirements in the Southeast. Therefore, at the full ALWTRT meeting, there was agreement that the southeast United States should retain its existing gear marking requirements rather than adopting those of the northeast fisheries. In addition, applying the northeast gear marking requirements in the southeast may conflict with current gear marking requirements under an existing FMP. The system is more elaborate than the northeast gear marking scheme, and as such, may yield more information than the simplified scheme employed by the December 2000 interim final rule for the Northeast. In the October 2001 proposed rule, NOAA Fisheries indicated that it would leave the existing gear marking requirements in place for the Southeast U.S. Restricted Area.

3.1.4 Scope of Fisheries Addressed

As mandated by the MMPA, the ALWTRP currently regulates a diversity of fisheries in order to reduce whale entanglements. NOAA Fisheries is expanding its fishery restrictions for gillnet fisheries in the southeastern United States within a reasonable scope based on the best information available.

NOAA Fisheries believes that the current ALWTRP measures adequately protect whales from potential entanglements north of the Southeast U.S. Restricted Area, and thereby do not warrant additional gear restrictions.

In the February 1999 final rule, NOAA Fisheries described the fisheries most affected by the ALWTRP. Those fisheries included anchored gillnet fisheries, including the New England sink gillnet fishery; the Gulf of Maine/U.S. mid-Atlantic lobster trap/pot fishery; the U.S. mid-Atlantic coastal gillnet fisheries; and the southeastern U.S. Atlantic shark gillnet fishery. These fisheries were chosen specifically for their known frequent or occasional incidental mortality and serious injury of whales.

For certain marine mammal stocks and fisheries, section 118(f) of the MMPA requires NOAA Fisheries to develop and implement take reduction plans to assist in the recovery or prevent marine mammal depletion. In reaching the long-term goal to reduce incidental mortality or serious injury of marine mammals incidentally taken in the course of commercial fishing to insignificant levels approaching a zero mortality and serious injury rate, Take Reduction Plans must take into account the economics of the fishery, the availability of existing technology, and existing state or regional fishery management plans.

NOAA Fisheries and the ALWTRT chose to develop additional restrictions on the straight set of gillnets in the Southeast U.S. Restricted Area based on available information on the likelihood of potential interactions between the fishery and right whales. NOAA Fisheries and the ALWTRT did not believe that they had sufficient information or basis to further regulate the southeastern U.S. shark gillnet fishery which is currently managed by the ALWTRP. In addition, NOAA Fisheries does not believe that southeastern fisheries other than the straight set gillnet fishery pose a frequent or occasional risk to the recovery of right whales. Some fisheries operating in the southeast United States may potentially take large whales, because the gear is similar to that used by those fisheries regulated through the ALWTRP. Currently, these fisheries are classified as posing only a remote likelihood of or no known incidental mortality or serious injury of marine mammals, or the fisheries are not classified. NOAA Fisheries will continue to assess the appropriateness of these classifications and may recommend a reclassification in the future if evidence identifies any fishery may contribute to the overall entanglement problem.

3.2 Alternatives Chosen for Detailed Analysis

NOAA Fisheries chose gear method modifications in the Southeast U.S. Restricted Area during the right whale calving season as the preferred variables to analyze further. The alternatives chosen for detailed analysis are within the scope of the action, are technically feasible, and are approaches that have been discussed in the ALWTRT process. NOAA Fisheries utilized gear research results and ALWTRT recommendations to develop the Proposed Action and other alternatives described below.

3.2.1 Alternative 1 - Proposed Action: Prohibition of Straight Sets at Night

The Proposed Action would expand the existing fishing prohibitions in the Southeast U.S. Restricted Area to include no straight sets of gillnets at night from November 15 through March 31, annually, unless an exemption for shark gillnets applies.

3.2.2 Alternative 2 - No-Action Alternative

The No-Action Alternative would leave in place the existing ALWTRP regulations to date unchanged.

3.2.3 Alternative 3 - Prohibition of Straight Sets

Similar to Alternative 1, this alternative would prohibit the straight set of gillnets in the Southeast U.S. Restricted Area at night from November 15 through March 31, unless an exemption for shark gillnets applies. This alternative would add an additional restriction prohibiting the straight set of gillnets during the day as well.

3.2.4 Alternative 4 - Prohibition of Gillnets

Alternative 4 would prohibit the use of all types of gillnets in the Southeast U.S. Restricted Area from November 15 through March 31. This alternative targets a broader set of fishing methods which occur, including both runaround sets and straight sets. This alternative would include the shark driftnet fishery, which is currently regulated under existing ALWTRP requirements.

4.0 Affected Environment

The affected environment was discussed in detail in Section 6.0 of the Environmental Assessment published in July, 1997 (NOAA Fisheries 1997). The physical area affected by this action is an area off the Florida-Georgia coast in the Southeast U.S. Restricted Area as defined by the ALWTRP. The biological resources potentially affected by this action are also described in detail in the Environmental Assessment published in July 1997 (NOAA Fisheries 1997), and updates are provided below.

The main goal of the ALWTRP is to reduce serious injury and mortality of large whales. The alternatives were developed to accomplish that goal by reducing the threat of injury to large whales from entanglement in fixed fishing gear. Therefore, the general effect of these alternatives, except the No-Action Alternative, should be beneficial to large whales (the primary marine resource affected by this action).

4.1 Physical Environment

The Southeast U.S. Restricted Area consists of the designated right whale Critical Habitat off Georgia and northern Florida as well as waters extending offshore. Seasonal water temperatures and salinity for the area are higher than in northern waters. This is a transition area separating subtropical from the temperate southeastern marine communities. Large cyclic changes in abundance and dominating plankton species occur seasonally and annually. The area is not considered a foraging ground for right whales; however, the area does provide important calving and nursing habitat for a significant portion of the right whale population.

4.2 Biological Environment Excluded from Detailed Analysis

This EA discusses in depth the likely impacts associated with the Proposed Action and three alternatives. NOAA Fisheries chose to focus on the alternatives likely impacts on ESA-listed species, because these organisms would likely receive the largest impact relative to their abundance as compared to species which are not listed.

4.3 Biological Environment Included in Detailed Analysis

4.3.1 Marine Mammals

The status of the large whales is discussed in detail in Section 2.2 of the EA published on July 15, 1997 (NOAA Fisheries 1997), and is hereby incorporated by reference. The following is provided as an update to that section.

The information in this section is from the 2000 Marine Mammal Stock Assessment Reports (SAR) (Waring et al., 2000) and from entanglement reports compiled by NOAA Fisheries between 1998 and 2001. The detailed reports for entanglements up to 1998 are contained in the 2000 SAR. Summaries of the 1998, 1999, 2000, and 2001 entanglements are provided below for each species. Additional information about the population biology and human-caused sources of mortalities and serious injuries are included in the 2000 SARs which are available in hard copy from NOAA Fisheries and via (www.nefsc.NOAA Fisheries.gov/psb/assesspdfs.htm).

4.3.1.1 Western North Atlantic Right Whale

The western North Atlantic right whale is the rarest of all large cetaceans and one of the most endangered species in the world. The western North Atlantic population is estimated at 291

animals (Kraus et al., 2000) and is unlikely to be significantly higher. A recent International Whale Commission (IWC) workshop on the status and trends in this population (IWC, 2001) concluded that survival has declined. Due to the decline in survival, evidenced by the decline in calving rates and increase in calving interval, the PBR level for this population has been set to zero.

Approximately one-third of all known western North Atlantic right whale mortality is caused by human activities. Further, the small population size and low annual reproductive rate suggest that human sources of mortality may have a greater effect on population growth rates of the western North Atlantic right whale than on those of other whales.

The principal factors retarding growth of the population are believed to be ship strikes and entanglement in fishing gear (IWC, 2001). For the period 1994 through 1998, the total human-caused mortality and serious injury to western North Atlantic right whales is estimated as 1.4 incidents per year. Of this figure, 0.8 incident per year is attributed to entanglements and 0.6 to ship strikes. Note that some injuries or mortalities may go undetected, particularly those that occur offshore. Therefore, the estimates above should be considered minimum estimates.

In 1998, four western North Atlantic right whales were reported entangled. On July 12, two western North Atlantic right whales were found trapped in a weir near Grand Manan Island, Canada, and were released 2 days later without apparent harm. Another western North Atlantic right whale was seen entangled in rope of unidentified origin on August 15 near Mingan Island in the Gulf of St. Lawrence. The whale was too active to approach safely to disentangle it, and appeared to free itself of most of the gear. One western North Atlantic right whale was entangled twice (and actually disentangled three times) in Cape Cod Bay. The whale had been seen entangled in 1997 in the Bay of Fundy. On July 24, 1998, the same whale was seen near Dennis, Massachusetts (Cape Cod Bay), where most, but not all of the gear it had been carrying from the 1997 entanglement was removed. NOAA Fisheries has not been able to identify the type of gear responsible for this 1997 entanglement. The same whale was seen again near Provincetown, Massachusetts, on September 12 with a lobster buoy line through its mouth, and that gear was removed. The same whale was seen again 2 days later (September 14) near Barnstable, Massachusetts, where it had picked up additional lobster gear which was also removed by the NOAA Fisheries-supported disentanglement team. At last report, the whale was swimming freely but still had a thin line in its mouth from the 1997 entanglement, which is now believed to represent a serious injury to that animal as it may interfere with its ability to feed.

In 1999, six western North Atlantic right whales were reported entangled. The gear was completely removed from one animal, and most of the gear was removed from two others. Although some gear was removed from a fourth animal, it ultimately died from the entanglement. The last two animals were sighted offshore (one in the United States and one in Canada) but could not be relocated.

In 2000, a total of five confirmed western North Atlantic right whale entanglements were sighted in the Gulf of Maine (both in the United States and Canada). One whale was completely disentangled, one whale was not a candidate for rescue due to its minor entanglement, and one whale remained entangled and required further assessment. The disentanglement team was unable to respond to two entangled western North Atlantic right whales. One is an unidentified western North Atlantic right whale, sighted and lost by aerial survey in the Bay of Fundy, Canada. The other was sighted by aerial survey too far offshore on two occasions. This whale has been determined to have a minor entanglement.

In 2001, two western North Atlantic right whale entanglements were reported. One whale, identified as #1102, was first sighted in the Great South Channel on June 8. The disentanglement team assessed that the whale was in grave condition due to the serious nature of the entanglement and attached a telemetry buoy to track the movement of the whale. On June 26, the team attempted to disentangle the whale by first administering two doses of Midazolam, which the team hoped would sedate the whale and slow it down enough for the team to approach the head of the whale where the gear was lodged in the rostrum. However, the sedative did not produce the desired effect and the team had to further assess the condition of the whale for future disentanglement attempts. On July 14, the team made another trip out to the whale to attempt disentanglement. The whale was injected with the sedative twice, but, once again, the team noticed no effect on the whale and could not attempt disentanglement. The whale was tracked by a telemetry buoy in order to monitor it for future disentanglement attempts; however, NOAA Fisheries now believes that the animal is dead, likely due to the serious injuries it sustained.

On July 20, 2001, western North Atlantic right whale #2427 was spotted 30 miles east of Portsmouth, N.H., by a whale watch vessel. The animal was entangled in offshore lobster gear. The surface system, meaning surface buoys, high flyer, and associated line, was entangled around the animal s rostrum. The Center for Coastal Studies disentanglement team responded to and successfully disentangled the animal and the animal has since been sighted in the Great South Channel area on July 28, 2001. To date there has been one disentanglement team-associated attempt for a right whale in the southeast U.S. gillnet fisheries which occurred in 1996.

Additional details of disentanglement events are available from the NOAA Fisheries Southeast Region contact or on the NOAA Fisheries Web site (www.nero.NOAA Fisheries.gov/ro/doc/nero.html).

4.3.1.2 Humpback Whale

The best estimate of abundance for North Atlantic humpback whales is 10,600, and the minimum population estimate for this stock is 10,019 (Waring et al., 2001). For purposes of the current stock assessment, the maximum net productivity rate for western North Atlantic humpback whales is assumed to be 0.065. The PBR level for this stock is 32.6 humpback whales per year.

For the period 1994 through 1998, the total estimated human-caused mortality and serious injury to humpback whales in U.S. waters is estimated as 3.65 per year. This is derived from three components:

(1) Entanglements that have been reported by NOAA Fisheries observers equate to 0.25 per year,
(2) Additional fishery interaction records make up another 2.4 per year, and
(3) Vessel collision records which account for the remaining 1.0 per year.

To date there have been no disentanglement team-associated attempts for humpback whales in the southeast U.S. gillnet fisheries, and NOAA Fisheries has not received any report of live entanglements.

Details of disentanglement events are available from the NOAA Fisheries Web site at (www.nero.NOAA Fisheries.gov/ro/doc/nero.html).

4.3.1.3 Fin Whale

The best available estimate of abundance for the western North Atlantic fin whale is 2,200, which is considered conservative (Waring et al., 2000). The minimum population estimate is 1,803 (ibid.). For purposes of the current stock assessment, the maximum net productivity rate for fin whales is assumed to be 0.04. The PBR for this stock is 3.6.

Entanglements of fin whales are rarely documented. Because of the paucity of stranded animals or other records, NOAA Fisheries has not calculated an average entanglement rate. NOAA Fisheries believes that serious injuries or mortalities due to entanglements of fin whales occur at a rate below 10 percent of PBR. A review of 26 records of stranded or floating (dead or injured) fin whales for the period of 1992 through 1996 showed that three had formerly been entangled in fishing gear. There were no reports of entangled fin whales in 2000. In 2001, one fin whale was reported with a minor entanglement, and the whale was determined to likely free itself. To date there has been no disentanglement team-associated attempts for fin whales in the southeast U.S. gillnet fisheries, and NOAA Fisheries has not received any report of live entanglements.

4.3.1.4 Minke Whale

Minke whales off the eastern coast of the United States are considered to be part of the Canadian east coast population, which inhabits the area from the eastern half of Davis Strait south to the Gulf of Mexico. The best estimate of the population is 3,810 (Waring et al., 2000), which is considered conservative. The minimum population estimate for Canadian east coast minke whales is 3,097 (ibid.). The current and maximum net productivity rates are not known, but the maximum rate is assumed to be 0.04. The PBR for this stock of minke whales is 31.

To date there has been no disentanglement team-associated attempt for minke whales in the southeast U.S. gillnet fisheries. NOAA Fisheries has not received any report of live entanglements in the southeast United States.

4.3.2 Sea Turtles

The following sea turtles are known to occur in the pelagic waters of the Atlantic: leatherback sea turtle, hawksbill sea turtle, green turtle, Kemp s ridley sea turtle, and loggerhead sea turtles. Leatherback, hawksbill, Kemp s ridleys, and the Florida breeding population of green turtles are classified as endangered under the ESA. Loggerheads are designated as threatened. A thorough review of the life history, status and trends, and threats is available in the June 14, 2001, Bos (NOAA Fisheries, 2001), and is therefore incorporated by reference.

4.4 Economic Environment

The ALWTRP Southeast U.S. Restricted Area extends from 27º 51' N latitude (near Sebastian Inlet, Florida) northward to 32° 00' N latitude (near Savannah, Georgia) and from the shore outward to 80º W longitude. Shark gillnet fishing has been prohibited since November 1997 in this area during the period from November 15 through March 31, except when an observer is on board the vessel, the net is used as a runaround (or strike) gillnet, and when certain other conditions are met. The southeastern U.S. shark gillnet fishery is considered to be a Category II fishery based on interaction levels with bottlenose dolphin.

No person may fish with shark gillnet gear in this area from November 15 through March 31 unless the vessel operator notifies NOAA Fisheries at least 48 hours in advance of departure to arrange for observer coverage (50 CFR 229.32(f)(3)(i)). NOAA Fisheries has received no requests for observers from vessels to fish the closed areas with strike gillnet gear since the regulation was implemented on November 15, 1997. Given the small number of vessels with permits to fish for sharks that operate in this area, this is taken as a prima facie indication that directed shark fishing has not occurred. However, gillnets are used on trips that target fish other than shark and some shark are caught incidentally on such trips.

None of the fishery-dependent data collection and management programs for marine commercial fishing activity in the southeastern coastal states (North Carolina through Texas) provide sufficient detail to definitively analyze the proposed alternatives in terms of the kind and/or set of the gillnet, and the hour and area of capture (degrees and minutes for latitude and longitude). This includes information provided by fishermen, dealers, and NOAA Fisheries port agents. Further, some necessary information, where collected, is not mandatory, producing either missing observations or, in some instances, data of unknown veracity. Therefore, the information is incomplete. Verification would require the use of trained observers, vessel monitoring systems (VMS), fisherman training, and/or other methods. There would be a cost associated with added detail, likely including public burden hours and budgetary cost for data collection and

management by fishery agencies. However, NOAA Fisheries is making inferences about some aspects of commercial fishing based on information that is available.

4.4.1 Data Collection Systems

None of the available historical data sets provide information on the costs and returns of fishing. The three primary routine data collection systems, with note of appropriate limitations are:

4.4.1.1 General Canvass Data

Data from the NOAA Fisheries Southeast Fishery Science Center s computerized accumulated landing system (ALS) are based on the cooperative state-Federal program for fishery dependent data collection and management, and it contains monthly data on landings by species, gear, county, and dealer. ALS data is sometimes called General Canvass data, and it is based on dealer records. Dealers are the first buyers in the marketing chain going from fisherman to consumer.

4.4.1.2 Trip Logbook Data

Daily data are available from the NOAA Fisheries trip logbook program, but the data records themselves do not incorporate the time of fishing, the kind and/or set of gillnet used, and landings of some fish. Trip logbook reporting is a condition of having the respective Federal fishing permits for commercial fishing under Federal FMPs for Gulf of Mexico reef fish, South Atlantic snapper-grouper, king and Spanish mackerel (beginning in 1998), and some shark. The databases are separate from those for logbooks for the Atlantic pelagic longline fishery which encompasses a much larger geographic portion of the Atlantic Ocean, given the nature of fish which are considered to be highly migratory species (HMS). Even so, landings of some species may be reported in both systems. The FMP-based logbook systems are not universal in that they do not provide information on all commercial and for-hire (recreational, paid-passenger carrying) fishing activity of the boats and vessels involved in the specified fisheries. Also, the NOAA Fisheries Southeast Region trip logbooks have not incorporated fish price data, and the ex-vessel dollar value of logbook-reported landings were estimated using General Canvass data for this analysis.

4.4.1.3 Florida Trip Ticket Data

For Florida, the General Canvass data has been based on the use of data collected via the Florida Trip Ticket (FTT) system since 1987. Price and gear became mandatory reporting fields for the data records beginning in the mid-1990s, though the specific NOAA Fisheries gear code is not entered on the form by the fisherman. The FTT system uses the Saltwater Products License (SPL) number as an identifier in each data record, and an SPL may be associated with a vessel (boat) or with a person. In so far as possible, NOAA Fisheries port agents have added the apparent vessel (boat) identifiers to the data records for SPLs associated with persons using various other data files and sources of information. The edited, confidential, computerized data files are accessible

currently for analyst use from the NOAA Fisheries Southeast Fishery Science Center for 1997-2000.

4.4.1.4 Gear Descriptions

Dumont and Sundstrom (1961) provide common names, descriptions, and drawings of the various kinds of gillnets and other gear that have been used in commercial fishing in the United States. While species-based definitions of mesh size, float-line length, and other particulars for gillnets have been published in relation to regulations for the ALWTRP and southeast Federal FMPs, the NOAA Fisheries gear codes for gillnets that are used in the General Canvass and FTT systems are not as specific. The six kinds of gillnets for which data were collected for the South Atlantic Region for calendar years 1997-2000 follow:

Gear Type	Gear Code
Entangling Nets (Gill), Unspecified	400
Gillnets, Other*	425
Gillnets, Drift, Shad	465
Gillnets, Drift, Other	470
Gillnets, Drift, Runaround	475
Trammel nets	530

*For North Carolina only, NOAA Fisheries gear code 425 has been used to indicate landings by anchor and stake gillnets.

4.4.2 Landings and Revenue

North Carolina is the leading state in the South Atlantic in terms of the pounds and ex-vessel value of landings for commercial fisheries as a whole for landings based on gillnets and for landings via gillnet in the ALWTRP season (November-March) (Table 1). Landings in the state may, however, include species that are thought of as being caught mostly in the northeast as well as others that are thought of as being caught mostly in the southeast, with a biogeographical boundary at about Cape Hatteras in terms of ocean currents and fish stocks.

In the South Atlantic Region as a whole (North Carolina through Miami-Dade County, Florida), commercial landings for all fish, gear and ports averaged about 225 million pounds ($200 million) per fishing year for the three most recent fishing years for which data are available, 1997/1998-1999/2000, as approximated by landings in the 12-month periods November-October, based on General Canvass data, which is reported monthly, not daily (Table 1). The respective averages for the South Atlantic Region as a whole for gillnet gear were about 28 million pounds ($15 million) for the three fishing years (November-October), and about 19 million pounds ($8.3 million dollars) for the three ALWTRP restricted fishing seasons (November-March).

Commercial landings of fish via gillnets in the ALWTRP Southeast U.S. Restricted Area and season averaged about 0.950 million pounds ($0.515 million), using as an approximation landings in November-March in Georgia and Nassau-Brevard Counties, Florida (Table 2). This accounts for a bit under half of the average landings via gillnets for the entire fishing year in this area, 2.3 million pounds ($1.25 million). For all commercial fishing gear, landings averaged about 10.4 million pounds ($17.7 million) for the 1997/1998-1999/2000 seasons, and gillnets accounted for about 9% of the pounds (3% of the ex-vessel value) (Tables 2a and 2c).

The Coastal Migratory Pelagic (CMP) FMP (GMFMC and SAFMC,1982) included information from economic surveys, on-going fishery-dependent data collection and other sources to indicate how gillnets, hand lines, and other gear were being used in the 1970s in the southeastern United States commercial fisheries for CMP species, especially king mackerel and Spanish mackerel (GMFMC and SAFMC, 1982). The term coastal migratory pelagic fish was introduced to help distinguish these fish from tunas, swordfish, some shark and other fish that are highly migratory species (HMS) and separately managed.

The runaround gillnet became an important gear for king mackerel in the 1960s and remained so until the mid-1980s. It is no longer an authorized gear in the Atlantic EEZ south of Cape Lookout Light, North Carolina (34°37.3' N latitude), in directed commercial fishing for king mackerel, cero, cobia and dolphin. The CMP species listed in the FMP that can continue to be harvested with runaround gillnets and other net gear are Spanish mackerel, bluefish, and little tunny (which may include bonito).[1] The runaround gillnet remains as the most important gear for Spanish mackerel. Two other kinds of nets, cast nets and stab gillnets, are also authorized gear in commercial fishing for Spanish mackerel under the FMP (NOAA Fisheries 2001). The leading fish caught via runaround gillnet (NOAA Fisheries gear code 475) in the ALWTRP Southeast U.S. Restricted Area, as approximated by landings in Georgia and Nassau-Brevard Counties, Florida, include Spanish mackerel, sharks, pompano, blue runner, bluefish, and king whiting for the fishing year November-October. For the ALWTRP fishing season (November-March), sharks fall well below these other fish in rank.

In Georgia, landings attributable to capture by gillnet during the ALWTRP restricted seasons 1997/1998-1999/2000, approximated by landings in November-March, consisted mostly of shad and shad roe. Shad is believed to occur mostly in fresh and brackish waters, in rivers and estuaries. According to sums for the three seasons, most of the shad landings occurred in the ALWTRP restricted season, 0.239 million pounds ($0.164 million, November-March) out of 0.241 million pounds ($0.166 million, November-October). Georgia prohibits the use of gillnets in state marine

[1]Coastal migratory pelagic fish means one or more of the following species, or a part thereof (50 CFR § 622.2, definitions and acronyms): (1) bluefish, *Pomatomus saltatrix* (Gulf of Mexico only), (2) cero, *Scomberomorus regalis*, (3) cobia, *Rachycentron canadum*, (4) dolphin, *Coryphaena hippurus*, (5) king mackerel, *Scomberomorus cavalla*, (6) little tunny, *Euthynnus alletteratus*, and (7) spanish mackerel, *Scomberomorus maculatus*.

waters. According to the data for the 1997/1998-1999/2000 seasons (except for the ALWTRP restricted period), there were some sharks caught in gillnet gear in Federal waters which were landed in Georgia. However, since May 2000 the state of Georgia no longer allows sharks caught via gillnet gear in Federal waters to be landed in Georgia. Therefore, data for the 1997/1998-1999/2000 would not be indicative of the current shark gillnet fishing effort in Federal waters off Georgia.

Besides Federal FMP regulations, a Florida constitutional amendment precluded the use of gillnets and certain other net gear within state waters starting in July 1995. Its effect can be observed in commercial landings of Spanish mackerel for gillnets, especially for the west coast where state jurisdiction extends to nine nautical miles from shore. The effect has been less on Florida s east coast, where state jurisdiction extends to three nautical miles from shore. A few years prior to the implementation of Federal FMPs, Florida regulations on the use of gillnets and other gear were used by default to affect fishing in Federal as well as state waters, such as in fishing for king mackerel (GMFMC and SAFMC, 1982).

In Nassau-Brevard Counties, Florida, landings via runaround gillnet (NOAA Fisheries gear code 475) totaled 2.6 million pounds ($1.38 million) for the three ALWTRP seasons 1997/1998 - 1999/2000, and a much smaller amount occurred via drift gillnets, other (NOAA Fisheries gear code 470), less than 500 pounds and less than $500) (Table 3). The runaround gillnet sum of landings for the three 12-month fishing years came to 6.5 million pounds ($3.6 million) (Table 4). Much of the landings for Spanish mackerel occurred in the ALWTRP season, 2.0 million pounds ($0.84 million) out of 2.9 million pounds ($1.365 million) (3-year sums). Relatively large proportions of the annual landings of pompano, king whiting, and crevalle occur during November-March. While some shark were landed during the ALWTRP season, most of the landings for the fishing year occur in other months.

Based on the use of daily data from the FTT system, the estimated ex-vessel value commercial landings of fish caught with gillnets in the ALWTRP s Southeast U.S. Restricted Area and season, from November 15 through March 31, totaled about $1.0 million (for 1.8 million pounds, round weight) for the three seasons 1997/1998-1999/2000, or an average of about $0.33 million per season (Table 5). This estimate is for Nassau-Brevard Counties, Florida, and it excludes any data for Georgia. Again, it is understood that the state of Georgia has allowed the use of gillnets to target only shad and/or other freshwater, estuary, or brackish water species since July 2, 2000.

During the three seasons 1997/1998-1999/2000, 102 unique entities landed fish caught with gillnets in Nassau-Brevard Counties. These entities are identified by the Florida Saltwater Products License number (SPL), and most of the SPLs are for vessels or boats rather than individuals. Similar enumeration for Georgia vessels is not possible due to the absence of an appropriate licensing system. Of the 102 unique SPLs, 61 operated in 1997/1998, 62 in 1998/1999, and 41 in 1999/2000. Of these 102 unique SPLs, 16 participated or reported landings for all three seasons, 26 for two seasons, and 58 for only one season (Table 5).

Landings via gillnet gear in the ALWTRP restricted season and area accounted for a significant portion of what the same SPLs landed during the ALWTRP season, regardless of gear, area of capture, and port of landing in Florida, 1.8 million pounds out of 2.5 million pounds ($1.0 million out of $2.6 million) (Table 8). For the average SPL, 24% (1997/1998), 31% (1998/1999) and 17% (1999/2000) of total annual harvest in pounds occurred during this season (50th percentile percentages, Table 6). The percentages for value were a bit lower. That is, for the average SPL, 20% (1997/1998), 28% (1998/1999), and 13% (1999/2000) of annual revenues were generated during this season (50th percentile percentages, Table 7). Further, for the average SPL, 44% (1997/1998), 51% (1998/1999) and 37% (1999/2000) of annual harvests in pounds occurred during the season (50th percentile percentages, Table 9). The percentages for value were a bit lower. That is, for the average SPL, 43% (1997/1998), 49% (1998/1999), and 34% (1999/2000) of annual revenues were generated during the season (50th percentile percentages, Table 10).

Table 11 provides a breakout of the ex-vessel value of harvest by gear during the ALWTRP season, regardless of gear, area of capture, and port of landing in Florida for the same SPLs. Clearly, the runaround gillnet is the dominant gear for these SPLs (81% of the $2.6 million). Among the other gear types, landings by shark longline accounted for 6% of the total ex-vessel value for the three ALWTRP seasons 1997/1998-1999/2000. Table 12 is like Table 11, except that it shows harvests for the entire fishing year, and the runaround gillnet remains the dominant gear for the SPLs in the entire fishing year as well as in the ALWTRP season (79% of the $5.6 million).

The three-season sum of gross revenues for these 102 SPLs totaled $3.4 million for commercial landings of fish (all species) during the ALWTRP season, regardless of gear, area, and port of landing in Florida (Table 13). Gross revenue from the use of gillnets still dominated, 73% compared with 81% for the more restricted procedure for counting (Tables 8-12). Their landings for the three fishing years totaled $7.4 million, with runaround gillnets accounting for 69% (Table 14). Tables 13 and 14 suggest that some of the fishermen chose to operate with different gear and/or outside of the ALWTRP restricted area during the ALWTRP season, but gillnets remained as the dominant gear.

4.4.3 Fishing Practices

Based on NOAA Fisheries trip logbook-reported information for gillnet fishing activity in the ALWTRP restricted area (approximated by activity in NOAA Fisheries statistical grids 2880 through 3181) and season (from November 15 through March 31), the average soak time was 1.0 hour in both the 1998/1999 and 1999/2000 seasons (Table 15). It may be noted that 10% of the 421 trips in the 1998/1999 season had soak times of 4.0 hours or more and that 10% of the 296 trips in the 1999/2000 season had soak times of 7.0 hours or more. Whether the longer soak times reported by fishermen represent one set of the net or two or more sets of the net is not clear. The instructions given to fishermen for use in completing logbook forms might allow for either response, as might the availability of fish, weather conditions, time of day, size of the boat and so on. The averages for net length were 800 yards (1998/1999 season) and 600 yards (1999/2000).

The averages for other variables were as follows: crew size, two persons; days away from port, 1 day (the minimum for computational purposes); gillnet mesh size (diagonal opening), 3.5 inches.

It cannot be determined from available data whether night sets or straights sets are specifically being used, since time of deployment is not recorded and no specific gear code exists for straight set gillnets, but their use would seem to be unlikely or minimal at most. First, virtually all landings in the ALWTRP restricted area during the 1997/1998 through 1999/2000 seasons that are attributable to gillnets are reported from the use of runaround gillnets according to summaries of landings by NOAA Fisheries gear code (Table 3). Other than shad drift gillnets for Georgia (excluded either due to the gear designation as shad gillnets which are primarily deployed in rivers and estuaries, or by the reported composition of catch which indicates freshwater species), less than 500 pounds of reported landings in the ALWTRP (or 133 pounds per season), and less than $500 of revenues (or $133 per season) for the appropriate season are attributed to gillnets, drift, other gear (NOAA Fisheries gear code 470). These harvests might be attributable to either straight set gillnets or to mis-coded runaround gillnets; however, whether they are in fact runaround gear cannot be determined. Runaround gillnets and stab gillnets are the only kind of gillnet authorized for harvesting Spanish mackerel under Southeast FMP regulations. Spanish mackerel accounted for 75% of the landings by weight and 54% of the ex-vessel value of landings for three seasons 1997/1998-1999/2000 taken together (Florida trip ticket data, for landings from November 15-March 31, Nassau-Brevard Counties, Florida). However, such regulations do not apply to other fish that are landed, including pompano (pounds, 6%; dollars, 29%), bluefish (pounds, 9%; dollars, 5%), various shark (pounds, 4+%; dollars, 4+%) king whiting (pounds, 2%; dollars, 4%), blue runner (pounds, 1%; dollars, 2%), and other fish (by species, 0% or 1%).

The vessels or boats that have been used to fish commercially for Spanish mackerel tend to be small. In 1997, there were 107 boats or vessels that had home ports on Florida s east coast, that had Federal permits for commercial fishing for mackerel, and that were likely to fish for Spanish mackerel based on qualitative indicators (Vondruska, 1998).[2] They had a median length of 27 feet and a median engine horsepower of 228. The average gross income from fishing with these vessels was $14,000 and that for fishing expense $10,500 (data for one to three years prior to the year of permit). Today, there are separate Federal permits for commercial fishing for king mackerel (*Scomberomorus cavalla*, which is often lumped inseparably in landings data with cero, *Scomberomorus regalis*) and for commercial fishing for spanish mackerel (*Scomberomorus maculatus)*. Requirements to complete logbooks for trips for boats or vessels that have Federal permits for commercial fishing for mackerel were implemented in 1998.

Anecdotal information suggests that fishermen that have permits for commercial fishing for Spanish mackerel proceed to the EEZ in the early morning and return by evening. Since the fishing craft that are used tend to be relatively small work boats and have a crew of two persons,

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[2]For each of the 107 boats or vessels, spanish mackerel was among the top four fish in value of sales and the runaround gillnet was among the top four gear, according to check off blocks on the permit applications.

nighttime fishing is likely to be disadvantageous in terms of safety while fishing, locating and netting fish, and during the return to port, should adverse weather or seas develop.

Some insight about fishery behavior and/or participant compliance with FMP regulations may be drawn from logbook-reported data on gillnet length, mesh size, and soak time. The data for the 1998/1999 and 1999/2000 ALWTRP restricted area and season suggest that on average the trips were in compliance with FMP regulations for commercial fishing for Spanish mackerel on the Florida east coast, respecting Federal FMP regulations restrictions on gillnet length, mesh size, and soak time (Table 15). To target Spanish mackerel on commercial fishing trips in the Mid-Atlantic EEZ and South Atlantic EEZ, the Southeast FMPs require a minimum mesh size of 3.5 inches stretched, although 500 pounds of Spanish mackerel per trip is allowed for incidental catch for smaller mesh sizes [50 CFR § 622.41, (c) (3) (ii)]. However, if the mesh size is less than 4.75 inches stretch, then the incidental catch of king mackerel may exceed no more than 10 percent of the number of spanish mackerel on board. In addition, along the Florida east coast (north of the Miami-Dade and Monroe County line), a float line no longer than 800 yards, and a soak time of no more than one hour are allowed. The ALWTRP defines a shark gillnet as one having webbing of 5 inches or greater stretched mesh (50 CFR 229).

Using FTT system data for landings in the ALWTRP restricted area during the 1997/1998 through 1999/2000 seasons, as approximated by landings from November 15 through March 31 and in Nassau-Brevard Counties, Florida, the time fished averaged 8 hours for 1134 trips (range 0-55 hours; 90%, < 11 hours; 95%, < 12 hours; 99%, <15 hours). For Spanish mackerel, 676 trips were reported, and time fished averaged 8 hours (range, 0-22 hours; 90%, <= 11 hours; 95%, <= 12 hours; 99%, <= 14 hours).

Taking into account averages for soak time (1.0 hour), days away from port (1 day, the minimum possible for computational reasons), and hours fished (8 hours), supports anecdotal information that trips tend to be day trips. This appears to be in accord with Council expectations. That is, FMP regulations for Spanish mackerel define a day as starting at 6 a.m., and lasting for 24 hours. Spanish mackerel retained on board is not to be counted against the next day s trip limit, so long as the boat is not returning to port after 6 a.m. of the second day, and unloads by 6 p.m. of the second day. Again, 99% of the 1134 trips had reported fishing hours of less than 15 hours, making it likely that they could have been day trips, albeit long day trips.

Based on Tables 11 and 12 showing harvests of other species, in response to restrictions on the use of gillnet gear, it might be presumed that those SPLs that use shark and other long lines off the Florida east coast could expand their use of this gear. However, an all-year closure was implemented in early 2001 for the East Florida Closed Area, an area of the EEZ that is south from 31° North Latitude (a line between Little Cumberland Island and Jekyll Island, Georgia) through Key West (NOAA Fisheries 2000). Alternatively, some of the SPLs have landed fish in the snapper-grouper complex. The extent of potential expansion into this fishery is unknown. The snapper-grouper fishery is currently under a permit moratorium. Those participants/SPLs who currently own a snapper-grouper permit could expand their effort into this fishery. However, the

fact that these individuals currently choose to concentrate on the gillnet fishery during this period is an indication that expected revenues would likely be lower in the snapper-grouper fishery, otherwise they would already be participating more intensely in the snapper-grouper fishery (presuming that the decision on which fishery to prosecute is an economic one). Those participants who do not currently possess a snapper-grouper permit could purchase one from an existing participant. However, of the two classes of permits, the harvest trip-limited permit cannot be transferred and the unlimited harvest permit requires a 2-for-1 buy-in (a new entrant has to purchase two existing permits). These existing permits sell for approximately $15,000 each. Thus, a substantial financial outlay would be required to enter this fishery.

Table 1a.--South Atlantic landings
by fishing year and state for all gear
for the ALWTRP fishing year as approximated by landings in November-October

	Thousand pounds					Thousand dollars				
	South Atlantic					South Atlantic				
	NC	SC	GA	FL ec	Region total	NC	SC	GA	FL ec	Region total
1997/1998	194,816	18,011	13,870	29,573	256,270	97,190	30,216	26,527	44,537	198,470
1998/1999	173,540	17,445	12,102	31,724	234,811	99,366	30,489	22,540	47,183	199,578
1999/2000	133,866	17,803	10,153	31,294	193,117	107,060	32,257	21,888	52,980	214,184
Total	502,223	53,260	36,125	92,590	684,198	303,616	92,961	70,955	144,700	612,232

Table 1b.--South Atlantic landings
by fishing year and state for gillnets
for the ALWTRP fishing year as approximated by landings in November-October

	Thousand pounds					Thousand dollars				
	South Atlantic					South Atlantic				
	NC	SC	GA	FL ec	Region total	NC	SC	GA	FL ec	Region total
1997/1998	27,407	402	137	3,940	31,885	13,503	240	86	2,206	16,035
1998/1999	23,526	197	143	3,988	27,853	12,742	221	89	2,139	15,191
1999/2000	21,621	506	58	2,538	24,723	12,172	347	34	1,480	14,031
Total	72,553	1,105	338	10,466	84,462	38,417	808	209	5,824	45,258

Table 1c.--South Atlantic landings
by state and season for gillnets
for the ALWTRP season as approximated by landings in November-March

	Thousand pounds					Thousand dollars				
	South Atlantic					South Atlantic				
	NC	SC	GA	FL ec	Region total	NC	SC	GA	FL ec	Region total
1997/1998	20,040	376	136	2,120	22,673	7,691	229	86	1,168	9,173
1998/1999	16,697	172	45	2,515	19,430	7,128	201	45	1,324	8,698
1999/2000	14,221	430	58	1,335	16,044	6,044	303	34	772	7,151
Total	50,958	979	239	5,970	58,146	20,863	732	164	3,263	25,023

Table 2a.--South Atlantic landings
by fishing season and state for gillnets
for the ALWTRP restricted area as approximated by
landings in Georgia and Nassau-Brevard Counties, Florida and
for the ALWTRP season as approximated by landings in November-March

	Thousand pounds			Thousand dollars		
	South Atlantic			South Atlantic		
	GA	FL ec	Region total	GA	FL ec	Region total
1997/1998	136	811	947	86	409	494
1998/1999	45	1,253	1,298	45	663	708
1999/2000	58	548	606	34	308	342
Total	239	2,612	2,851	164	1,380	1,544

Table 2b.--South Atlantic landings
by state for gillnets
for the ALWTRP restricted area as approximated by
landings in Georgia and Nassau-Brevard Counties, Florida and
for the ALWTRP fishing year as approximated by landings in November-October

	Thousand pounds			Thousand dollars		
	South Atlantic			South Atlantic		
	GA	FL ec	Region total	GA	FL ec	Region total
1997/1998	137	2,279	2,416	86	1,223	1,310
1998/1999	143	2,550	2,693	89	1,380	1,469
1999/2000	58	1,646	1,704	34	949	982
Total	338	6,475	6,813	209	3,553	3,762

Table 2c.--South Atlantic landings
by fishing season and state for all gear
for the ALWTRP restricted area as approximated by
landings in Georgia and Nassau-Brevard Counties, Florida and
for the ALWTRP season as approximated by landings in November-March

	Thousand pounds			Thousand dollars		
	South Atlantic			South Atlantic		
	GA	FL ec	Region total	GA	FL ec	Region total
1997/1998	4,111	6,468	10,579	8,043	9,872	17,915
1998/1999	3,386	7,295	10,682	5,637	10,781	16,418
1999/2000	3,291	6,790	10,080	5,684	12,950	18,634
Total	10,788	20,553	31,341	19,364	33,603	52,967

Table 3.--South Atlantic landings
by state for the 1997/1998 - 1999/2000 seasons and gillnets
for the ALWTRP restricted area as approximated by
landings in Georgia and Nassau-Brevard Counties, Florida and
for the ALWTRP season as approximated by landings in November-March

Gear	Thousand pounds**			Thousand dollars**		
	South Atlantic			South Atlantic		
	GA	FL ec	Region total	GA	FL ec	Region total
Gillnets, selected*	239	.	239	164	.	164
Gillnets, Drift, Other	.	0	0	.	0	0
Gillnets, Drift, Runaround	.	2,612	2,612	.	1,380	1,380
Total	239	2,612	2,851	164	1,380	1,544

*Entangling gillnets, unspecified (NOAA Fisheries gear code 400), other gillnets (NOAA Fisheries gear code 425), shad drift gillnets (NOAA Fisheries gear code 465). Landings in Georgia consist mostly of shad and shad roe, plus carp and finfish for food.
**A . is used to indicate no observations in a table cell. Since the units are in thousands, a zero (0) represents a value less than 500.

Table 4.--South Atlantic landings
by state for fishing years 1997/1998 - 1999/2000 and gillnets
for the ALWTRP restricted area as approximated by
landings in Georgia and Nassau-Brevard Counties, Florida and
for the ALWTRP fishing year as approximated by landings in November-October

	Thousand pounds			Thousand dollars		
	South Atlantic			South Atlantic		
	GA	FL ec	Region total	GA	FL ec	Region total
Gillnets, selected*	241	.	241	166	.	166
Gillnets, Drift, Other	na	0	na	na	0	na
Gillnets, Drift, Runaround	.	6,474	6,474	.	3,552	3,552
Trammel Nets	na	na	na	na	na	na
Total	na	6,475	6,813	na	3,553	3,762

*Entangling gillnets, unspecified (NOAA Fisheries gear code 400), other gillnets (NOAA Fisheries gear code 425), shad drift gillnets (NOAA Fisheries gear code 465) combined. Landings in Georgia consist mostly of shad and shad roe, plus carp and finfish for food.

Table 5.--Florida Trip Ticket indicators of commercial fishing activity for SPLs that used gillnets in the ALWTRP restricted season, Nov 15-Mar 31, and area, as approximated via landings in Nassau-Brevard Counties, Florida. Along with indicators for the same SPLs by fishing year, Nov 15-Nov 14 regardless of gear, time or area of capture and port

Fishing year	SPLs	Boats or vessels	Season, pounds	Season, dollars	Season, trips	Year, pounds	Year, dollars	Year, trips
1997/1998	61	55	596,424	296,865	320	3,078,464	1,856,030	3,354
1998/1999	62	61	902,878	514,116	535	3,653,675	2,132,926	2,768
1999/2000	41	40	326,441	192,673	281	2,497,811	1,624,135	2,125
Total	164	156	1,825,743	1,003,654	1,136	9,229,950	5,613,092	8,247

Table 6.--Florida Trip Ticket indicators of commercial fishing activity for SPLs that used gillnets in the ALWTRP restricted season, Nov 15-Mar 31 and area, as approximated via landings in Nassau-Brevard Counties, Florida Means and percentiles (10th, 25th, 50th, 75th and 90th)

Pounds landed per SPL, ALWTRP season and area

			Percentiles				
Fishing year	SPLs	Mean	P10	P25	P50	P75	P90
1997/1998	61	9,777	267	1,450	4,356	11,117	26,135
1998/1999	62	14,563	535	1,600	7,379	20,819	44,499
1999/2000	41	7,962	513	1,846	4,948	12,481	18,517

Pounds per SPL, regardless of gear, area, time or port

			Percentiles				
Fishing year	SPLs	Mean	P10	P25	P50	P75	P90
1997/1998	61	50,467	3,579	10,912	26,867	61,758	138,653
1998/1999	62	58,930	4,894	8,192	21,530	78,003	166,554
1999/2000	41	60,922	4,915	12,995	34,037	72,635	161,654

Pounds landed per SPL by gillnets in the ALWTRP season and area as a percentage of pounds landed for the same SPL, regardless of gear, area, time or port

			Percentiles				
Fishing year	SPLs	Mean	P10	P25	P50	P75	P90
1997/1998	61	30	2	10	24	38	83
1998/1999	62	41	8	12	31	63	99
1999/2000	41	23	4	8	17	30	49

Table 7.--Florida Trip Ticket indicators of commercial fishing activity for SPLs that used gillnets in the ALWTRP restricted season, Nov 15-Mar 31 and area, as approximated via landings in Nassau-Brevard Counties, Florida
Means and percentiles (10th, 25th, 50th, 75th and 90th)

Ex-vessel value of landings per SPL, ALWTRP season and area

			Percentiles				
Fishing year	SPLs	Mean	P10	P25	P50	P75	P90
1997/1998	61	4,867	182	726	2,058	7,015	14,940
1998/1999	62	8,292	550	1,142	4,115	12,347	20,746
1999/2000	41	4,699	479	1,109	3,123	7,634	10,732

Ex-vessel value of landings per SPL, regardless of gear, area, time or port

			Percentiles				
Fishing year	SPLs	Mean	P10	P25	P50	P75	P90
1997/1998	61	30,427	1,783	8,309	18,054	41,767	74,673
1998/1999	62	34,402	2,354	6,261	15,939	42,545	89,006
1999/2000	41	39,613	4,408	14,428	24,020	53,935	83,080

Ex-vessel value of landings per SPL for gillnets in the ALWTRP season and area as a percentage of ex-vessel value for the same SPL, regardless of gear, area, time or port

			Percentiles				
Fishing year	SPLs	Mean	P10	P25	P50	P75	P90
1997/1998	61	27	2	6	20	34	72
1998/1999	62	38	6	9	28	59	99
1999/2000	41	20	3	7	13	21	56

Table 8.--Florida Trip Ticket indicators of commercial fishing activity for SPLs that used gillnets in the ALWTRP restricted season, Nov 15-Mar 31, and area, as approximated via landings in Nassau-Brevard Counties, Florida. Along with indicators for the same SPLs by ALWTRP season, regardless of gear, area of capture and port of landing

Fishing year	SPLs	Boats or vessels	Gillnet, pounds	Gillnet, dollars	Gillnet, trips	Season, pounds	Season, dollars	Season, trips
1997/1998	61	55	596,424	296,865	320	1,399,695	794,364	1,177
1998/1999	62	61	902,878	514,116	535	1,979,350	1,119,455	1,237
1999/2000	41	40	326,441	192,673	281	1,156,456	729,754	849
Total	164	156	1,825,743	1,003,654	1,136	4,535,501	2,643,573	3,263

Table 9.--Florida Trip Ticket indicators of commercial fishing activity for SPLs that used gillnets in the ALWTRP restricted season, Nov 15-Mar 31 and area, as approximated via landings in Nassau-Brevard Counties, Florida Means and percentiles (10th, 25th, 50th, 75th and 90th)

Pounds landed per SPL, ALWTRP season and area

			Percentiles				
Fishing year	SPLs	Mean	P10	P25	P50	P75	P90
1997/1998	61	9,777	267	1,450	4,356	11,117	26,135
1998/1999	62	14,563	535	1,600	7,379	20,819	44,499
1999/2000	41	7,962	513	1,846	4,948	12,481	18,517

Pounds per SPL for the ALWTRP season, regardless of gear, area and port

			Percentiles				
Fishing year	SPLs	Mean	P10	P25	P50	P75	P90
1997/1998	61	22,946	1,246	5,897	11,446	36,991	61,369
1998/1999	62	31,925	2,961	6,002	18,164	40,179	85,079
1999/2000	41	28,206	3,047	5,829	12,694	41,911	82,692

Pounds landed per SPL by gillnets in the ALWTRP season and area as a percentage of pounds landed for the same SPL in the ALWTRP season, regardless of gear, area and port

			Percentiles				
Fishing year	SPLs	Mean	P10	P25	P50	P75	P90
1997/1998	61	50	6	22	44	79	100
1998/1999	62	56	12	26	51	96	100
1999/2000	41	47	11	22	37	74	100

Table 10.--Florida Trip Ticket indicators of commercial fishing activity for SPLs that used gillnets in the ALWTRP restricted season, Nov 15-Mar 31 and area, as approximated via landings in Nassau-Brevard Counties, Florida Means and percentiles (10th, 25th, 50th, 75th and 90th)

Ex-vessel value of landings per SPL, ALWTRP season and area

Fishing year	SPLs	Mean	Percentiles P10	P25	P50	P75	P90
1997/1998	61	4,867	182	726	2,058	7,015	14,940
1998/1999	62	8,292	550	1,142	4,115	12,347	20,746
1999/2000	41	4,699	479	1,109	3,123	7,634	10,732

Ex-vessel value of landings per SPL for the ALWTRP season, regardless of gear area and port

Fishing year	SPLs	Mean	Percentiles P10	P25	P50	P75	P90
1997/1998	61	13,022	922	2,742	8,036	20,631	31,786
1998/1999	62	18,056	1,920	3,857	10,631	22,994	41,192
1999/2000	41	17,799	2,218	5,245	9,628	24,573	38,655

Ex-vessel value of landings per SPL for gillnets in the ALWTRP season
and area as a percentage of ex-vessel value
for the same SPL in the ALWTRP season, regardless of gear, area and port

Fishing year	SPLs	Mean	Percentiles P10	P25	P50	P75	P90
1997/1998	61	46	6	13	43	72	100
1998/1999	62	55	7	21	49	95	100
1999/2000	41	42	11	14	34	68	99

Table 11.--Florida trip ticket-reported landings, by gear for the ALWTRP restricted season, Nov 15-Mar 31, as approximated via landings in Nassau-Brevard Counties, Florida

Ex-vessel value, thousands of dollars
For 61, 62 and 41 that fished with gillnets in the ALWTRP restricted season and area in 1997/1998, 1998/1999, and 1999/2000 seasons, respectively

Fish	Season				
	1997/1998	1998/1999	1999/2000	Total	Percent
Haul Seines, Beach	.	0	.	0	0
Purse Seines, Other	0	.	.	0	0
Otter Trawl Bottom, Shrimp	2	2	.	4	0
Pots & Traps, Crab, Blue	6	.	.	6	0
Pots & Traps, Crab, Other	.	.	3	3	0
Gillnets, Drift, Runaround	662	952	521	2,136	81
Lines Hand, Other	15	26	16	57	2
Lines Long Set With Hooks	0	.	.	0	0
Lines Long, Reef Fish	16	26	14	55	2
Lines Long, Shark	18	58	108	183	7
Cast Nets	67	31	50	148	6
Diving Outfits, Other	.	10	12	22	1
By Hand, Other	8	3	7	18	1
Total	794	1,109	730	2,633	100

Table 12.--Florida trip ticket-reported landings, by gear for the ALWTRP fishing year, Nov 15-Nov 14,

Ex-vessel value, thousands of dollars
For 61, 62 and 41 that fished with gillnets in the ALWTRP restricted season and area in 1997/1998, 1998/1999, and 1999/2000 seasons, respectively

Fish	Fishing year				
	1997/1998	1998/1999	1999/2000	Total	Percent
Not Coded	0	.	.	0	0
Haul Seines, Beach	.	0	.	0	0
Purse Seines, Other	0	.	.	0	0
Otter Trawl Bottom, Shrimp	13	5	.	18	0
Pots & Traps, Crab, Blue	42	.	.	42	1
Pots & Traps, Crab, Other	0	.	10	10	0
Gillnets, Drift, Runaround	1,513	1,769	1,154	4,437	79
Lines Hand, Other	30	66	57	154	3
Lines Long Set With Hooks	0	.	0	0	0
Lines Long, Reef Fish	69	130	116	316	6
Lines Long, Shark	31	77	166	273	5
Dip Nets, Common	.	.	6	6	0
Cast Nets	120	57	83	260	5
Spears	2	0	.	2	0
Diving Outfits, Other	5	13	15	33	1
By Hand, Other	30	4	17	50	1
Total	1,856	2,123	1,624	5,603	100

Table 13.--All Florida trip ticket-reported landings in the ALWTRP season by gear, regardless of gear, area or port of landing in Florida, for SPLs that use gillnets in the ALWTRP restricted season, Nov 15-Mar 31, and area, as approximated via landings in Nassau-Brevard Counties, Florida
Ex-vessel value, thousands of dollars
For 102 SPLs, as they fished, of which 61, 62 and 41 chose to fish with gillnets in the ALWTRP restricted season and area in 1997/1998, 1998/1999, and 1999/2000 seasons, respectively

Fish	Season				
	1997/1998	1998/1999	1999/2000	Total	Percent
.	.	.	1	1	0
Haul Seines, Beach	.	0	6	6	0
Purse Seines, Other	30	35	.	65	2
Otter Trawl Bottom, Shrimp	9	2	1	13	0
Pots & Traps, Crab, Blue	7	31	8	46	1
Pots & Traps, Crab, Other	10	2	4	16	0
Gillnets, Drift, Runaround	859	1,020	616	2,496	73
Lines Hand, Other	23	35	30	88	3
Lines Long Set With Hooks	0	.	.	0	0
Lines Long, Reef Fish	16	26	18	59	2
Lines Long, Shark	102	117	108	327	10
Cast Nets	96	46	87	229	7
Spears	.	1	0	1	0
Diving Outfits, Other	.	10	12	22	1
By Hand, Other	16	14	10	40	1
Total	1,169	1,340	900	3,409	100

Table 14.--All Florida trip ticket-reported landings in the ALWTRP fishing year by gear, regardless of gear, area or port of landing in Florida, for SPLs that use gillnets in the ALWTRP restricted season, Nov 15-Mar 31, and area, as approximated via landings in Nassau-Brevard Counties, Florida
Ex-vessel value, thousands of dollars
For 102 SPLs, as they fished, of which 61, 62 and 41 chose to fish with gillnets in the ALWTRP restricted season and area in 1997/1998, 1998/1999, and 1999/2000 seasons, respectively

Fish	Fishing year				
	1997/1998	1998/1999	1999/2000	Total	Percent
.	.	.	1	1	0
Not Coded	0	.	.	0	0
Haul Seines, Beach	1	0	6	7	0
Purse Seines, Other	237	140	.	378	5
Otter Trawl Bottom, Shrimp	32	5	4	42	1
Pots & Traps, Crab, Blue	44	49	30	123	2
Pots & Traps, Crab, Other	14	3	11	28	0
Gillnets, Drift, Runaround	1,916	1,940	1,288	5,145	69
Lines Hand, Other	70	86	96	252	3
Lines Long Set With Hooks	0	.	0	0	0
Lines Long, Reef Fish	69	130	121	320	4
Lines Long, Shark	156	172	177	505	7
Dip Nets, Common	.	.	6	6	0
Cast Nets	189	107	170	466	6
Spears	2	5	4	11	0
Diving Outfits, Other	5	13	15	33	0
By Hand, Other	55	33	22	109	1
Total	2,791	2,684	1,951	7,425	100

Table 15. -Indicators of gillnet fishing activity in the ALWTRP restricted area and season as approximated by activity in NOAA Fisheries statistical grids 2880 through 3181 from November 15 through March 31

Variable	Percentiles P10	P25	P50	P75	P90	Range	Trips	Total
Soak time (hours)								
1998/1999	0.5	1.0	1.0	2.0	4.0	0-16	421	
1999/2000	1.0	1.0	1.0	3.0	7.0	0-18	296	
Gillnet length (yards)								
1998/1999	300	600	800	800	800	3-*	421	
1999/2000	300	400	600	800	1500	35-*	296	
Crew (persons)								
1998/1999	1	1	2	3	3	1-4	421	845
1999/2000	1	2	2	3	3	1-6	296	628
Days away from port (must be >= 1 day for computational purposes)								
1998/1999	1	1	1	1	1	1-3	421	425
1999/2000	1	1	1	1	1	1-3	296	305
Gillnet mesh size (diagonal opening, inches)								
1998/1999	3.5	3.5	3.5	3.5	20.0	1.4-**	421	
1999/2000	3.0	3.5	3.5	3.5	25.0	3.0-**	296	

*Maximum gillnet lengths appear to be erroneous. One mile = 5,280 feet = 1,760 yards. Thus, the 34,800 yards for 1998/1999 is about 20 miles; the 2800 yards for 1999/2000 is about 1.6 miles.

**Maximum gillnet mesh sizes (diagonal opening, inches) appear to be erroneous; i.e., 311 inches for 1998/1999 is about 26 feet; 518 inches for 1999/2000 is about 43 feet.

5.0 Environmental Consequences of the Alternatives

The biological resources potentially affected by this action are described in detail in Section 7.0 of the EA published on July 15, 1997 (NOAA Fisheries, 1997), and is hereby incorporated by reference. The main goal of the ALWTRP is to reduce serious injury and mortality of large whales. The MMPA provides a short-term goal of reducing incidental mortality or serious injury of strategic stocks of marine mammals incidentally taken in the course of commercial fisheries to below PBR and a long-term goal of insignificant levels approaching a zero mortality and serious injury rate. For western North Atlantic right whales, this provides NOAA Fisheries with the goal of eliminating serious injury or death resulting from incidental take in commercial fisheries. Under the ESA, NOAA Fisheries must also ensure that any action the agency authorizes, such as commercial fishing for lobster, monkfish, multispecies and dogfish, does not jeopardize the continued existence of western North Atlantic right whales. This Proposed Action was developed to facilitate reaching those goals by reducing the threat of injury to western North Atlantic right whales from entanglement in gillnet fishing gear. Therefore, the general effect of this action to western North Atlantic right whales (the primary marine resource affected by this action) is expected to be beneficial. Other marine mammals which are present in the area subject to gear restrictions would benefit from a reduced probability of entanglement. Non-marine mammal species known to be affected by gillnet gear include, of course, the fish species for which the gear is targeted. The environmental effects of the gear on targeted species are contained in the environmental documents for their FMPs. Leatherback sea turtles are also known to become entangled in fishing gear, the entanglement mechanism is similar to what happens with large whales. Therefore, the environmental consequences of each alternative to leatherback turtles will be similar to that for large whales.

5.1 Proposed Action: Prohibition of Straight Sets at Night

Under the Proposed Action vessels fishing with straight sets of gillnets in the Southeast U.S. Restricted Area would not be allowed to set their nets at night from November 15 through March 31, unless an exemption for shark gillnets applies. To continue using gillnet gear, fishers would need to use the runaround method under its current restrictions.

5.1.1 Biological Impacts

The area includes the southeastern U.S. right whale Critical Habitat, which is a nursery area for mothers and calves. Right whales generally occur in this area from November 15 through March 31. A prohibition during that time-area of the gear types with which the right whale is known to have become entangled would afford significant protection to the concentrations of right whales. NOAA Fisheries believes that straight set gillnets deployed during daytime are of very minimal threat to whales. Such gear is retrieved within about one-half hour of every set, and thus the fisher would be on-site in the possible event of an entanglement.

NOAA Fisheries has no documented takes of right whales due to the commercial straight set gillnet fishery. NOAA Fisheries does not have an observer program in the non-shark gillnet fisheries in the southeast United States, so there has been little opportunity for documenting such a take, other than through anecdotal accounts. NOAA Fisheries does have evidence of one documented instance of entanglement of a western North Atlantic right whale in gear similar to that which is used in the straight set fishery, thereby demonstrating the potential for straight sets of gillnet used for commercial fishing purposes to entangle whales. While operating in the waters off Georgia, an experimental fishery composed of gillnet gear used in a straight set method entangled one western North Atlantic right whale. The fishers released the animal alive, and there were no documented indications of any serious injuries associated with the encounter.

NOAA Fisheries concluded that there is the potential for western North Atlantic right whale entanglement due to straight set gillnets; however, the frequency and serious or lethal injury potential is low. The use of straight sets of gillnet in the Southeast U.S. Restricted Area generally occurs through December, which is only a portion of the whale s high-use period. Also, the gear is relatively light, such that an interaction wouldn t likely be immediately life-threatening. The gear probably doesn t have the potential to pull or hold a whale under, but it could restrict movement and possibly cause injury until it is shed. Because of the severely endangered status of this right whale population, it is important to minimize even these more minor types of gear encounters in order to help ensure the species' survival. Also, because of the concentration of newborn calves over this time and area, extra precautions are warranted.

NOAA Fisheries does not believe that the Proposed Action will result in adverse impacts to fish species, instead, the Proposed Action would likely benefit fish species through the removal of fishing gear. As detailed in Section 5.1.2, by implementing this Proposed Action, fishing operations should not be significantly affected, because this alternative does not prohibit the predominant gear type and time of use. Alternative 4 would produce the greatest potential benefit to fish species, because it addresses both the predominant time of use and gear type.

NOAA Fisheries believes that there is additional potential for sea turtle entanglement due to straight set gillnets, and the gear could restrict movement and possibly cause injury until it is shed. Unfortunately, with the gear restrictions provided under all of the alternatives except the complete prohibition of gillnets, the risk of entanglement to sea turtles and marine mammals may not be completely removed. Only through the removal of all gillnet fishing gear will the risk of an entanglement with gillnets disappear.

5.1.2 Effects on Existing Fisheries and Communities

These gear restrictions and associated impacts are estimated here. For a full understanding of the economic framework presented here, see the Regulatory Impact Review and Regulatory Flexibility Act Analysis under separate cover.

Available data indicate that there is not significant use of straight set gillnets in the ALWTRP restricted area and season. Virtually all gillnet landings in the ALWTRP restricted area during the 1997/1998 through 1999/2000 seasons have been reported to be caught through the use of runaround gillnets. Other than shad drift gillnets for Georgia (excluded due to either the gear designation as shad gillnets which are primarily deployed in rivers and estuaries, or by the reported composition of catch which indicates freshwater species), less than 500 pounds of reported landings in the ALWTRP (or 133 pounds per season), and less than $500 of revenues (or $133 per season) for the appropriate season are attributed to gillnets, drift, other gear, which might be characterized as straight set gear.

Additional data on fishing time suggest predominantly the incidence of day-trip fishing activity. The average time away from port was 1 day (the minimum for computational purposes), and 90% of the trips were for 1 day (range, 1-3 days). Time fished averaged 8 hours and average net-time soaked was 1.0 hour in both the 1998/1999 and 1999/2000 seasons. Vessel characteristics and conditions in the fishery suggest that this is predominantly a daytime fishery. Thus, since the predominant gear is runaround gillnets and day-trip fishing activity appears to be the norm, it appears that very few trips would be affected by the proposed alternative, although NOAA Fisheries does have information from its port samplers indicating that this gear deployment method is used on occasion. Also, shifts in preferred target species or other changes to the fishery could lead to more frequent use of this gear deployment method in this area in the future. Thus, the use of straight set gillnets or nighttime fishing cannot be totally ruled out and that small portion of the commercial effort and harvest that does fish in this manner may need to adjust due to the Proposed Action and, as such, additional harvest costs might be incurred. However, since the alternative fishing methodology (runaround gillnet) appears to be the predominant harvest approach, it is unlikely that the impacts would be significant. It is believed that the manner of fishing is primarily a matter of deployment method and not one of gear design. Thus, presumably any net currently deployed as a straight set could be redeployed as a runaround, thus not incurring gear change-over expenses. Therefore, fishing operations should not be significantly affected.

Through the Proposed Action, NOAA Fisheries aims to reduce the potential for the entanglement of western North Atlantic right whales in straight set gillnet gear. Due to the gear restrictions, the action would will likely reduce the likelihood of effort influx into the fishery in the future, thereby further reducing the potential likelihood of entanglements.

In the absence of significant changes in fishing behavior, significant effects on fishing communities are not expected. The implementation of additional measures to protect the endangered right whale species, however, should precipitate increased satisfaction among those groups and individuals who place value on this resource, and engender those positive outcomes associated with public acceptance of responsible management, such as active participation in the management process, support for budget initiatives, and willing participation in data collection programs.

Social benefits may be realized if these gear restrictions are effective at reducing the risk to western North Atlantic right whales, and other marine mammals and sea turtles, of entanglement. If this reduced risk increases the potential for recovery then society will benefit by preventing a loss of a species and preserving biodiversity. While these gear restrictions may place an economic burden on the fishing community, they do not prohibit fishing all together. Social benefits are realized from the application of management practices that demonstrate that fishing practices and marine mammals can co-exist.

5.1.3 Cumulative Effects on Existing Fisheries and Communities

Decreasing the risk of right whale entanglements under any of the three alternatives other than the No-Action Alternative poses cumulative effects on the gillnet fleet. The cumulative effects on straight set gillnet fishers due to the Proposed Action would not be significant.

This section estimates the cumulative effects of several preferred alternative plans that have been implemented with the intention of protecting right whales. Gear restrictions have been required under the ALWTRP. The objective of this particular rule is to increase the likelihood that a right whale is visible if there is an encounter, and therefore prevent an entanglement. Since NOAA Fisheries previous rules do not specifically address the gillnet fishers who use the straight set method for species other than shark, no cumulative effects of the ALWTRP currently exist on this fishery group. However, gillnet fisheries in Georgia and Florida have been impacted by state-imposed ocean gillnet bans. Therefore, when taking into account the existing state and Federal restrictions, the Proposed Action would pose a cumulative impact on fishers. The cumulative impact on the straight set gillnet fishery due to the Proposed Action is not significant, because as described in 5.1.2, fishing operations should not be significantly affected.

5.1.4 Consistency with Other Plans and Policies for Existing Fisheries and Communities

By implementing this alternative, NOAA Fisheries would be consistent with the recommendation in the four BOs to implement gear restrictions in the southeast United States. In addition, this recommendation is consistent with that recommended by the ALWTRT. This is the only alternative out of the suite of alternatives considered that is consistent with both.

5.1.5 Mitigation Measures for Effects on Existing Fisheries and Communities

NOAA Fisheries intends to continue making active use of the ALWTRT and its Gear Advisory Group (GAG) in an advisory capacity to review progress and make recommendations on how to continue to

decrease serious injuries and mortalities due to entanglements. NOAA Fisheries plans to reconvene the Team on an annual basis and to continue to hold sub-group meetings as appropriate.

NOAA Fisheries has noted in previous rules that further research on gear restrictions is necessary, and it committed to funding research on this topic. NOAA Fisheries intends to provide feedback to the ALWTRT as new technology is demonstrated to be operational on the water. The ALWTRT can review the Proposed Action s implementation, effectiveness, and best available technology. As necessary, the Team can make recommendations to further decrease serious injuries and mortalities due to entanglements while taking into account any environmental and socio-economic impacts. NOAA Fisheries, in collaboration with the ALWTRT, can modify gear regulations as necessary, and thus mitigate the likely effects on fisheries.

5.2 No-Action Alternative

Through the ALWTRP, NOAA Fisheries restricts the southeast U.S. shark gillnet fishery in the Southeast U.S. Restricted Area. Strikenetting for shark is allowed during the day in the Southeast U.S. Restricted Area with an observer on board and a spotter plane. Straight sets of gillnet is currently allowed. The No-Action Alternative would leave in place the existing regulations which are detailed in the 1997 interim final rule, 1999 final rule, and 2000 interim final rule.

5.2.1 Biological Impacts

The least risk averse alternative would be the No-Action Alternative, because it does not reduce the amount of gear in the water column nor likely reduce the potential for entanglement of sea turtles or marine mammals. This Alternative would result in status quo in terms of impacts to target species associated with the gillnet industry. The current ALWTRP contains a suite of voluntary and compulsory options to reduce the risk of entanglement. The conservation benefit of the ALWTRP is now considered of insufficient value and does not provide adequate entanglement risk reduction. This conclusion is supported in the jeopardy finding of the BOs. The BOs concluded that gillnet fisheries under the four fisheries as currently managed is likely to jeopardize the continued existence of the western North Atlantic right whale. NOAA Fisheries chose against using the No-Action Alternative as its Proposed Action because the alternative lacks any additional protection for large whales or for sea turtles.

5.2.2 Effects on Existing Fisheries and Communities

These gear restrictions and associated impacts are estimated here. For a full understanding of the economic framework presented here, see the Regulatory Impact Review and Regulatory Flexibility Act Analysis under separate cover.

The No-Action Alternative would impose no additional gear restrictions in the southeast United States and would therefore allow complete status quo operation of fishing activities and have no effect on current and future fishing effort in the ALWTRP s Southeast U.S. Restricted Area and right whale season. Further, failure to act in a timely manner may both jeopardize the existence or recovery of the species, the value of which is indeterminate due to its endangered status, as well as require more severe management measures

such as wider closures, which would likely impose significant economic and social impacts. The extent of these additional impacts, however, cannot be assessed at this time, since the actions have not been specified.

To the degree that the public deems additional protection of right whales is warranted, however, the absence of appropriate action would likely precipitate the negative behaviors associated with public dissatisfaction with management, such as refusal to participate in the management process, non-support for budget initiatives, and unwillingness to participate in data collection programs.

Under the No-Action Alternative fishing practices are not further restricted and therefore, at least in the short term, impacts to employment, family, and community are minimized. If, however, the failure to take action now to minimize impacts on western North Atlantic right whales results in the need to take more aggressive action at a later date the consequences to employment, family and community could be greatly increased from that described under the Proposed Action alternative.

Avoiding jeopardy is of obvious benefit to the western North Atlantic right whale, but it is also of benefit to the continued operation of the fisheries. The fisheries would experience no immediate expenses for gear restriction under the No-Action Alternative. However, if management measures are neither implemented nor successful at avoiding jeopardy after implementation, then additional stringent measures must be adopted which would likely have greater economic impacts on the commercial fishing industry, including the potential cessation of fishing.

5.2.3 Cumulative Effects on Existing Fisheries and Communities

By implementing the No-Action Alternative, NOAA Fisheries would not impose additional impacts on the existing fisheries and communities. Therefore, no additional impacts would affect the gillnet fisheries, and cumulative effects would remain constant.

5.2.4 Consistency with Other Plans and Policies for Existing Fisheries and Communities

By adopting the No-Action Alternative, NOAA Fisheries would be acting inconsistently with respect to the mandates under the four BOs and the recommendations by the ALWTRT. In addition, NOAA Fisheries would not improve the likelihood of reducing the incidental takes of western North Atlantic right whales by commercial fisheries to levels below PBR.

5.2.5 Mitigation Measures for Effects on Existing Fisheries and Communities

By implementing the No-Action Alternative, NOAA Fisheries would not impose additional impacts on the existing fisheries and communities. Therefore, no new mitigation measures would be necessary to accompany this alternative.

5.3 Total Prohibition of Straight Sets

Under this alternative, vessels would not be allowed to fish with straight sets of gillnets in the Southeast U.S. Restricted Area from November 15 through March 31, unless the shark gillnet provisions apply. To continue using gillnet gear, fishers would need to use the runaround method of setting gillnet gear under its current restrictions.

5.3.1 Biological Effects

Unfortunately, with the gear restrictions provided under all of the alternatives except the complete prohibition of gillnets, the risk of entanglement of large whales and sea turtles may not be completely removed. Only through the removal of all fishing gear will the risk of an entanglement with gillnet gear disappear. The second most risk averse technique is likely the complete prohibition of the fishing method. However, NOAA Fisheries believes that straight set gillnets deployed during daytime are of very minimal threat to whales and are of lessened threat to sea turtles (as compared to deployment at night). Such gear is retrieved within about one-half hour of every set, and thus the fisher would be on-site in the possible event of an entanglement.

NOAA Fisheries does not believe that this alternative will result in adverse impacts to fish species, since the predominant gear type would not be prohibited by this rule.

NOAA Fisheries does not believe that this alternative will result in adverse impacts to fish species, instead, the alternative would likely benefit fish species through the removal of fishing gear. As detailed in Section 5.3.2, by implementing this alternative, status quo fishing operation should occur because this alternative does not prohibit the predominant gear type and time of use. Alternative 4 would produce the greatest potential benefit to fish species, because it addresses both the predominant time of use and gear type.

5.3.2 Effects on Existing Fisheries and Communities

These gear restrictions and associated impacts are estimated here. For a full understanding of the economic framework presented here, see the Regulatory Impact Review and Regulatory Flexibility Act Analysis under separate cover.

This alternative would extend the prohibition of straight sets encompassed by the Proposed Action into daylight hours as well. Since available data do not demonstrate that straight sets are used frequently, regardless of the time of day fished, an extension of the prohibition to encompass the full 24-hour day would be unlikely to impose significant additional impacts over those previously discussed with respect to the Proposed Action.

Through this alternative, NOAA Fisheries aims to reduce the potential for the entanglement of western North Atlantic right whales in straight set gillnet gear. Due to the gear prohibition, the action would eliminate all legal effort in the fishery in the future.

Social benefits may be realized if these gear restrictions are effective at reducing the risk to western North Atlantic right whales, other marine mammals, and sea turtles of entanglement. If this reduced risk increases the potential for recovery, then society will benefit by preventing a loss of a species and preserving biodiversity. While these gear restrictions may place a minor economic burden on the fishing community, they do not prohibit fishing altogether and allow use of other gear deployment methods. Social benefits are realized from the application of management practices that demonstrate that fishing practices and marine mammals can co-exist.

5.3.3 Cumulative Effects on Existing Fisheries and Communities

Decreasing the risk of right whale entanglements under any of the three alternatives other than the No-Action Alternative has an increasing cost to the gillnet fleet. The cumulative effects on straight set gillnet fishers due to this Alternative would not be significant.

Since NOAA Fisheries previous ALWTRP rules do not specifically address the gillnet fishers who use the straight set method for species other than shark, no cumulative effects of the ALWTRP currently exist on this fishery group. Gillnet fisheries in Georgia and Florida have been impacted by state-imposed ocean gillnet bans. Therefore, when taking into account the existing state and Federal restrictions, this alternative would pose an additional cumulative impact on fishers. The cumulative effect would likely be greater than the Proposed Action due to this alternative s additional gear-specific prohibition during the day; however, this additional cumulative effect would not be significant.

5.3.4 Consistency with Other Plans and Policies for Existing Fisheries and Communities

By implementing this alternative, NOAA Fisheries would be consistent with the recommendation in the four BOs to implement gear restrictions in the southeast United States. However, the MMPA mandates that the ALWTRP take into account the economics of the affected fisheries and the recommendations by the ALWTRT. This alternative, in comparison to the Proposed Action, poses a greater potential economic impact on the fishery. This alternative is also contrary to that recommended by the ALWTRT, the Proposed Action, and it does not appear to be necessary due to the nature of the gear and the tending practices used by the fishers.

5.3.5 Mitigation Measures for Effects on Existing Fisheries and Communities

Like the other alternatives, except the No-Action Alternative, NOAA Fisheries intends to continue making active use of the ALWTRT and its GAG in an advisory capacity to review progress and make recommendations on how to continue to decrease serious injuries and mortalities due to entanglements. NOAA Fisheries plans to reconvene the Team on an annual basis to review any new information available and revise the ALWTRP, as necessary. By developing mitigation plans via the ALWTRT, NOAA Fisheries ensures fisher involvement and presumably plans developed are at cost levels which are acceptable to the fishing community.

5.4 Prohibition of Gillnets

Under this alternative, gillnet gear would be prohibited for use in the Southeast U.S. Restricted Area. The prohibition of gillnets in the Southeast U.S. Restricted Area would reduce the amount of gear in the water column.

5.4.1 Biological Effects

The biological benefits to the western North Atlantic right whale and other species at risk of entanglement brought about by the removal of gillnets from the water column is thought to be the most risk averse option and therefore of the greatest biological benefit.

The objective of this management action is to reduce potential entanglements. This alternative would provide full protection for the whales and sea turtles from entanglement in gillnet gear in the known whale high-use periods and area. Therefore, the target fish species would benefit from reduced catch. Fishing effort may be displaced outside those known high-use periods and areas, if the density of effort in adjacent areas increases, the risk of entanglement (marine mammals, turtles, and fish) in those adjacent areas may increase, as well.

5.4.2 Effects on Existing Fisheries and Communities

These gear restrictions and associated impacts are estimated here. For a full understanding of the economic framework presented here, see the Regulatory Impact Review and Regulatory Flexibility Analysis provided under separate cover.

The adoption of this alternative, in the absence of fishing effort being reallocated to alternative areas, species, gears, or seasons, could reduce commercial harvests from the ALWTRP restricted area and season (all species) by approximately 600,000 pounds per year. This averages to about $0.3 million in lost revenues per season and would represent a significant part of affected participants typical annual landings (from November 15-November 14), resulting in losses from annual revenues from all harvests, regardless of gear, area, time, or port from 13%-28%. In response to these restrictions, it might be presumed that those SPLs that use shark bottom longlines and other longlines off the Florida east coast could expand their use of this gear. Thus, there are few alternative opportunities remaining for these fishers.

Alternatively, some of the participants have landed fish in the snapper-grouper complex with bottom longline gear. The extent of potential expansion into this fishery is unknown. The snapper-grouper fishery is currently under a permit moratorium. Those participants/SPLs who currently own a snapper-grouper permit could expand their effort into this fishery. However, the fact that these individuals currently choose to concentrate on the gillnet fishery during this period is an indication that expected revenues would likely be lower in the snapper-grouper fishery, otherwise they would already be participating more intensely in the snapper-grouper fishery (on the presumption that the decision on which fishery to prosecute is an economic one). Those participants who do not currently possess a snapper-grouper permit could purchase one from an existing participant. However, of the two classes of permits available for this fishery, the per trip harvest-limited permit cannot be transferred and the unlimited harvest permit requires a 2-for-1 buy-in (a

new entrant has to purchase two existing permits). These existing permits sell for approximately $15,000 each. Thus, a substantial financial outlay would be required to enter this fishery.

Prohibiting all gillnet gear in the Southeast U.S. Restricted Area would be expected to impact up to 102 fishing operations, as there have been 102 unique vessels/participants reporting landings in the gillnet fishery in any of the past three seasons. Among the 102 unique participants, 61 operated in the ALWTRP restricted season and area in 1997/1998, 62 in 1998/1999, and 41 in 1999/2000. Of the 102 unique SPLs, 16 participated for three seasons, 26 for two seasons and 58 for one season.

Thus, this alternative would likely result in substantial negative economic impacts. These impacts would be expected to spill over into the fishing community. The loss of up to 28% of gross revenues would likely result in some participants no longer being able to remain in the commercial fishery. This could lead to stressed family and community structures and relationships, increased demand for local social services, additional community business failures, and relocations of families to other geographic locations to seek employment.

Through this alternative, NOAA Fisheries aims to reduce the potential for the entanglement of western North Atlantic right whales in all gillnet gear. Due to the gear prohibition, the action would eliminate all legal effort in the entire gillnet fishery in the future, not just likely restricting effort to current levels in the straight set gillnet fishery, as detailed in the Proposed Action and No-Action Alternatives.

Of the four alternatives analyzed, the No-Action Alternative would eliminate any potential negative impacts to the fishery and fishing community that might accrue due to a proposed regulation, but the No-Action Alternative would not contribute to increased protection to the endangered species. The other three alternatives place more severe restrictions on the fishery, with larger potential negative economic impacts. Thus, among those alternatives that afford increased protection to right whales, the Proposed Action minimizes the potential negative economic impacts.

5.4.3 Cumulative Effects on Existing Fisheries and Communities

Decreasing the risk of right whale entanglements under any of the three alternatives other than the No-Action Alternative, has an increasing cost to the gillnet fleet.

This section estimates the cumulative effects of several preferred alternative plans that have been implemented with the intention of protecting right whales. Two types of plans exist. First, gear restrictions have been required under three sets of ALWTRP actions (NOAA Fisheries 1997; NOAA Fisheries 2000; and NOAA Fisheries 2001). The shark driftnet fishery is currently regulated by the ALWTRP, thereby making the Proposed Action an additional restriction. The ALWTRT and NOAA Fisheries believe that the shark driftnet fishery is operating under restrictions which effectively minimize the likelihood of an entanglement. Further restrictions on the fishery would be an overly conservative measure with no additional evidence that the restrictions would likely reduce entanglement potential without undue economic burden on the fishery. Similar to the other alternatives (other than the No-Action Alternative), this alternative would pose a cumulative impact on fishers when taking into account the existing state and

Federal restrictions. When taking into account the existing and potential additional adverse effects to the gillnet fishers, this alternative would likely generate the greatest cumulative impact.

5.4.4 Consistency with Other Plans and Policies for Existing Fisheries and Communities

By implementing this alternative, NOAA Fisheries would be consistent with the recommendation in the four BOs to implement gear restrictions in the Southeast United States. However, the MMPA mandates that the ALWTRP take into account the economics of the affected fisheries and the recommendations by the ALWTRT. This alternative, in comparison to the Proposed Action, poses a greater potential economic impact on the fishery, and in fact expands the scope of the ALWTRT recommendation to additional fishers, additional gear types, and additional gear deployment methods. NOAA Fisheries believes that given the existing knowledge regarding the low bycatch rates of gear that is actively fished such as the strikenet gear, the lightness, short soak times, and visual monitoring potential of straight set gillnets during the daylight hours, and the existing stringent requirements of the ALWTRP with respect to the shark gillnet fishery, that a complete ban on gillnetting in Southeast waters over the right whale high-use period is unnecessary and overly burdensome for the fishers.

5.4.5 Mitigation Measures for Effects on Existing Fisheries and Communities

Should NOAA Fisheries implement this alternative, the mitigation measures for the effects on existing fisheries and communities would be consistent with the other alternatives (except the No-Action Alternative).

6.0 Finding of No Significant Impact

Impacts to society, both beneficial and adverse, were evaluated in this document and were determined to not be significant. Implementation of gear restrictions under the Proposed Action, as described in this document, are expected to have only minimal negative economic impact on the fishing industry. Prohibition of this potentially dangerous gear deployment method at nighttime is expected to be beneficial to right whales by reducing the potential for entanglement and preventing future expansion of effort with this gear deployment technique during the night. NOAA Fisheries believes that the impact of these restrictions in concert with all the gear and time/area restrictions recently proposed, will, collectively, reduce the threats significant enough to avoid the likelihood of jeopardy.

Public health and safety is not expect to be significantly affected by implementation of these gear restrictions, as described under the Proposed Action. The fishing industry has been instrumental in defining acceptable gear restrictions largely in the interest of safety. Given the fact that these modifications were developed in cooperation with industry, state governments, academia and other Federal agencies, with safety as a major consideration, public health and safety are not expected to be affected.

The unique characteristic of the geographic area impacted by the rule includes ocean floor and water column which supports an abundance of life forms of commercial and non-commercial value. The value of

this area was considered in the essential fish habitat consultation process and the unique characteristics will be not be impacted by this Proposed Action.

The effects of gear restrictions on the human environment are not likely to be highly controversial. The impact of gear restrictions may be controversial to a small segment of the fishing community, but the overall effects on the human environment are not expected to be highly controversial. These gear restrictions are limited in geographic area and are implemented in an effort to facilitate the coexistence of fishing activity and whales. These factors restrict the scope of the effects on the human environment.

The likelihood of unknown risks is low to non-existent given the fact that the prohibition would, at worst, shift a small level of effort from a deployment method potentially dangerous to whales, to a technique known for its low rate of bycatch.

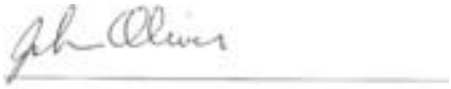
There is no evidence that implementation of gear restrictions as a management tool to reduce the risk of entanglement to right whales establishes a precedent for future actions with significant effects or represents a decision in principle about a future consideration. The justification for these gear restrictions can be found in the Biological Opinions drafted for the multispecies, monkfish, dogfish, and lobster fisheries. The use of gear restrictions as a management tool has been determined to be important in order for the agency to meet objectives under the MMPA and ESA. It is an independent action being implemented to achieve a specific objective and is therefore not expected to establish a precedent for future actions. Additionally, these restrictions merely build upon an existing rule containing similar restrictions.

This EA examines the cumulative effects of this final rule and existing restrictions on gillnet gear. Based on the information presented, it does not appear that this Proposed Action has significant impacts on society nor will it result in cumulatively significant impacts.

There is no evidence that the implementation of gear restrictions will adversely affect entities listed in or eligible for listing in the National Register of Historic Places or cause loss or destruction of significant scientific, cultural, or historic resources. Compliance with these restrictions is, by definition, not likely to result in the permanent loss or destruction of resources.

The basis for this Proposed Action is to offer additional protection to the critically endangered right whale. It is expected that other protected marine mammals, to the extent their distribution and abundance coincides with concentrations of right whales, will benefit from the imposition of gear restrictions. There is no evidence that threatened or endangered species will be adversely affected by these gear restrictions. Similarly, there is no evidence that implementation of gear restrictions is likely to result in a violation of a Federal, state or local law for environmental protection. In fact, gear restrictions would be expected to support Federal, state and local laws for environmental protection because it is expected that their goals and objectives would be similar to those of the MMPA and ESA. The implementation of gear restrictions would not result in any actions that would be expected to result in the introduction or spread of a nonindigenous species.

In view of the analysis presented in this document, it is hereby determined that the Proposed Action will not significantly affect the quality of the human environment, with specific reference to the criteria contained in NAO 216-6 implementing the National Environmental Policy Act (40 CFR 1508.27). Accordingly, the preparation of an Environmental Impact Statement for this Proposed Action is unnecessary.



AUG 16 2002

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7.0 Applicable Laws

In accordance with legal mandates, NOAA Fisheries must consider the effect of the Proposed Action on small businesses, marine mammals, endangered species, essential fish habitat, and the human environment.

7.1 Regulatory Flexibility Act (RFA) and Executive Order (E.O.) 12866

Congress passed the Regulatory Flexibility Act (RFA) to ensure that Federal agencies considered the impacts of regulations, taking into account the special needs and concerns of small businesses through an initial regulatory flexibility analysis.

E.O. 12866 requires that the Office of Management and Budget review proposed regulatory programs that are likely to be significant. NOAA Fisheries complies with the E.O. through the preparation of a Regulatory Impact Review (RIR). The proposed rule associated with this EA has been determined to be not significant for the purposes of the E.O. NOAA Fisheries has prepared an RIR and Regulatory Flexibility Act Analysis under separate cover.

7.2 National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) requires Federal agencies to assess the effects of major Federal actions upon the human environment in the form of an environmental impact statement or EA. The analysis describes the level of significance of the impact result from the proposed Federal action. NOAA Fisheries prepared this EA in accordance with NEPA.

7.3 Endangered Species Act (ESA)

The ESA imposes on all Federal agencies a duty to ensure that agency actions do not jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of the Critical Habitat of such species. To effectuate the ESA s duty to avoid jeopardy and adverse modification, the ESA requires the action agency to consult with an expert agency to evaluate the effects a proposed agency action may have on a listed species. If the action agency determines through preparation of a biological assessment or informal consultation that the Proposed Action is not likely to adversely affect listed species or Critical Habitat, formal consultation is not required so long as the expert agency concurs.

BOs on the three Fishery Management Plans (FMP) for the monkfish, spiny dogfish, and multispecies fisheries, and the Federal regulations for the lobster fishery were issued on June 14, 2001. The BOs concluded that prosecution of these fisheries as stipulated under the FMPs and lobster regulations would jeopardize the continued existence of western North Atlantic right whales. Therefore, NOAA Fisheries defined an RPA with multiple management components. Among the RPA elements was a requirement to expand gillnet gear restrictions to Southeast areas regulated by the ALWTRP. NOAA Fisheries developed the proposed alternatives to address the gear restriction requirement. NOAA Fisheries believes that the

Proposed Action implements the gear restriction RPA to benefit the continued existence of listed species; therefore, the Proposed Action does not warrant additional analysis under the ESA at this time. If new information reveals additional effects to listed species or its Critical Habitat in a manner or to an extent not previously considered, NOAA Fisheries will reinitiate consultation under the ESA.

7.4 Marine Mammal Protection Act (MMPA)

The Proposed Action to expand gear restrictions will not adversely affect marine mammals. Instead, the Proposed Action will provide additional risk reduction in the effort to reduce serious injury and mortality of several marine mammal species due to entanglement in gillnet gear. The additional protection provided by the Proposed Action will further NOAA Fisheries actions to accomplish the goals under the § 118 of the MMPA, specifically to reduce take and serious injury of marine mammals incidental to commercial fishing operations.

7.5 Paperwork Reduction Act (PRA)

The purpose of the PRA is to minimize the paperwork burden for individuals, small businesses, educational and nonprofit institutions, and other persons resulting from the collection of information by or for the Federal government. The Proposed Action associated with this EA does not contain a collection-of-information requirement for the purposes of the Paperwork Reduction Act.

7.6 Essential Fish Habitat (EFH)

Pursuant to the Magnuson-Stevens Act, Federal agencies must undergo a consultation process regarding any of their actions authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken that may adversely affect EFH. The area affected by the Proposed Action has been identified as EFH through several FMPs, and through consultation, NOAA Fisheries determined that the proposed gillnet restrictions would not adversely affect EFH of species managed by the NOAA Fisheries or the South Atlantic Fishery Management Council. Further coordination on this matter was not deemed necessary unless future modifications are proposed which may adversely impact EFH.

8.0 References

ALWTRT 2001. Draft Atlantic Large Whale Take Reduction Team Meeting Summary. Summary prepared by RESOLVE, Inc. and submitted to the National Marine Fisheries Service July 16, 2001.

Atlantic Large Whale Take Reduction Team, Southeast Sub-group (ALWTRT). 2000. Notes for the July 24, 2000, Jacksonville, Florida meeting, 7 pages (cited as ALWTRT, 2000, meeting notes).

Dumont, William M. and G. T. Sundstrom. 1961. Commercial Fishing Gear of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Bureau of Commercial Fisheries, Washington, D.C., Fish and Wildlife Circular 109, iv plus 61 pages, 1961 (printed by U.S. Government Printing Office).

Gulf of Mexico of Fishery Management Council and South Atlantic Fishery Management Council (GMFMC and SAFMC). 1982. Fishery Management Plan, Final Environmental Impact Statement, Regulatory Impact Review for the Coastal Migratory Pelagic Resources (Mackerels). GMFMC. April 1982, chapters and appendices individually paged.

International Whaling Commission (IWC). 2001 Report on the IWC Workshop on the Status and Trends in western North Atlantic Right Whales. J. of Cetacean Research and Management.

Kraus, et al. 2000. Status and Trends in Reproduction of the North Atlantic Right Whale. J. of Cetacean Research and Management.

NOAA Fisheries 1997. Environmental Assessment and Regulatory Impact Review of the Atlantic Large Whale Take Reduction Plan and Implementing Regulations. NOAA Fisheries Northeast Regional Office. July 1997. 77 pp.

NOAA Fisheries 2000. Environmental Assessment of the Interim Final Rule amending the Atlantic Large Whale Take Reduction Plan. National Marine Fisheries Service, NOAA Fisheries Northeast Regional Office. December 6, 2000.

NOAA Fisheries 2000. Environmental Assessment of the Atlantic Large Whale Take Reduction Plan and Implementing Regulations. NOAA Fisheries. Northeast Region. December 2000.

NOAA Fisheries 2001. Endangered Species Act Section 7 consultation. Biological opinions regarding Fishery Management Plans for monkfish, spiny dogfish, and multispecies, and Federal regulations for American lobster. June 14, 2001.

NOAA Fisheries 2001. Unofficial compilation of Federal regulations, prepared and published on by the Southeast Regional Office of the National Marine Fisheries Service for the information and convenience of interested persons, respecting 50 CFR part 622. National Marine Fisheries Service,

9721 Executive Center Drive, North, St. Petersburg, Florida, April 30, 2001 [This compilation does not include changes to these regulations that may have occurred after this date].

Vondruska, John. 1998. Description of boats with Federal fishing permits in 1997, National Marine Fisheries Service. SERO-ECON-98-14. U.S. Department of Commerce, Southeast Regional Office, St. Petersburg, Florida. March 1998.

Waring et al. 2000. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments- 2000. NOAA Technical Memorandum NOAA Fisheries-NE-162. U.S. Department of Commerce, Northeast Fisheries Science Center, Woods Hole, Massachusetts.

16 U.S.C. 1361 et seq. United States. Congress. Marine Mammal Protection Act of 1972 as Amended.

16 U.S.C. 1531 et seq. United States. Congress. Endangered Species Act of 1973 as Amended.